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ARTICLE 1.

NOTES RELATING TO THE EXTIRPATION OF THE PAROTID GLAND.

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The discussion of the question of the possibility and utility of extirpation of the parotid gland will seem at first sight to imply a degree of ignorance on the part of the profession in the region in which it occurs imcompatible with a respectable degree of anatomical and surgical knowledge. Nevertheless, here, as elsewhere, it is rather the result of personal objects than of scientific zeal, raised for the purpose pulling down a school or an individual, rather than to establish any new doctrine in surgical practice. Hence I might be expected to pass it by in silence, but the discussion of any question of science is so much more agreeable than the combatting of stale notions relating to medical politics, that I choose to regard it in a serious light, and treat it is as if we were still at a period when the common carotid artery had never been tied, nor the upper and lower jaw been removed.

Prof. Granville Sharp Patteson, in a lecture delivered January 22d, 1833, p. 9, says: "If after I shall have shortly stated the facts which the progress of surgery has, within the last few years furnished, to establish the practicability and safety of extirpating a diseased parotid gland, the possibility of performing this operation should be doubted even by a junior student, I shall only say that his case is hopeless."

Professor Mutter, in his Notes to Liston's Surgery, 1846, p. 311, says: "During my recent visit to Europe being anxious to ascertain the estimate placed upon the measure by the best authorities there, I made the subject one of diligent inquiry. I discovered that much difference of opinion existed as to the utility of the operation, but I found none who doubted the possibility of its execution."

Vidal says, "The question (of the possibility of the extirpation of the parotid gland) in my judgment, need not be discussed at the present day." Traite de Pathologie Externe, vol. 4, p. 71.

Prof. Gross, in his recent work on surgery, says it is folly to deny the possibility or the propriety of extirpating the parotid gland, at the present day.

Notwithstanding these opinions, there are still those who persist in discussing this opinion, as if had never been settled; and recently the surgical and anatomical departments of the Lind University have chosen this as the point of attack upon the veracity and professional skill of the writer of this article.

Without, therefore, taking time and space, which might better be devoted to other points, I propose to lay before the profession those facts well known and accessible to all, and of which no surgeon should be ignorant, showing the perfect practicability of the operation.

I do not propose to discuss its utility except incidentally. There are some who dispute the utility of removing the female breast for cancer. The general practice of the profession is against them, although their reasons are strong, quite as much so as those which could be urged against the same operation on the parotid gland.

The question of its removal is one of indication only.

There are many cases in which the gland is involved in which no operation should be thought of. I have myself seen two cases of the kind in which no operation was advised. I certainly should hesitate to undertake the operation in cases so formidable as those in which Profs. Goodlad, Carmichael, Klein, McClellan, and others, operated successfully.

But in other cases where the disease is more limited, the operation, although formidable, is by no means excessively difficult in its mechanical execution. Cases of this kind are sometimes met with, and they are described by Nelcton as the most common form of cancer of the gland.

"The tumor remains for a long time small, indolent, and of a stony hardness; it is fixed as if wedged in the parotid notch. It presents no inequalities on the surface, and no alteration of the skin. It is developed from above downward, and its greatest diameter is transverse."

"This tumor increases but slowly, and it is but rarely, according to Boyer, that it quickly acquires a large size, and that it gives rise to the sensations peculiar to cancer." *Elements de Pathologie Chirurgicale*, tona 2, p. 725.

The objections to the reports of the removals of this gland date from an early day, before the ligature of the carotid artery was thought of, and when the danger of wounding the external carotid was sufficient to deter surgeons from undertaking an operation. They are mostly anatomical, and refer to the deep situation and important relations of the organ. Experience has sufficiently demonstrated the fallacy of such objections. There is no wound fatal to life necessarily made in removing the parotid gland.

Critics have objected that reports of this operation often state that there is little hemorrhage, which, it is alleged, is inconsistent with the idea of its extirpation. Now the principal artery involved in tumors of the gland when of small size is the continuous trunk of the external carotid, which divides higher up into the temporal and internal maxillary arteries. Owing to anomalies this may be deficient, or of small size, but even if of its usual dimension, it does not necessarily give great hemorrhage; firstly because the surgeon, knowing

its situation, may secure it by ligatures before dividing; secondly, because an artery of that size, when torn across, give little or no blood. This was noticed by Dr. George McClellan in one of his cases. If any not familiar with such operations doubt of this let them refer to the effect of torsion of the arteries or to those cases of which four or five are now on record in which avulsion of the arm and scapula was produced by mechanical force, the subclavian and axillary arteries, giving little or no blood when thus torn across.

The amount of hemorrhage will, in such an operation depend upon the vascularity of the parts and the size of the tumor. I have removed about twenty tumors from the region about the angle of the jaw, including several of portions of the jaw itself. Of these, two only were for disease of the gland.

In some of these operations the bleeding was profuse, much more so than in the two for removal of the gland itself. McClellan states the same as true of his experience. He removed the gland eleven, and other tumors situated in connection with it, thirty times.

The manner of performing the operation also influences the loss of blood. By tying the large arteries before dividing them, and making the dissection wih a blunt instrument, large tumors may be removed without great hemorrage.

Another objection to the reports of such operation is the neglect to state that the facial nerve was divided, or that paralysis occurred. Now, if in any such operation, the face were stated not to be paralyzed, or the external carotid artery, not to be divided, I should doubt if the parotid gland could have been removed, notwithstanding it may be taken away in the healthy state on the dead subject and leave both these parts. But the neglect to give a full description of an operation does not altogether discredit it, and after the division of the nerve the paralysis gradually disappears or diminishes, probably from other nervous branches supplying its place. This has been noticed by Sir Astley Cooper and others.

Finally, it has been objected that surgeons have mistaken other glands for the parotid. It may be well to notice the

distinction between the question of primary disease of the parotid, and that of its removal by operation. It might be true that the gland is not subject to become primarily diseased, and yet it might require to be removed for disease extending to it. What difference, in a purely surgical point of view, can there be between a cancerous growth originating a lymphatic gland situated within the parotid and extending to this latter, causing its absorption, and the same growth originating in the parotid and extending to the lymphatic glands? Scirrhus of the female breast sometimes originates in the skin. —Velpeau *Traite des Maladies de Sein*, p. 437.

But this in no wise changes its nature nor obviates the necessity of removing the whole gland when this has become involved. I have, in three cases of disease of the lower jaw, removed the half of it, with every vestige of both the parotid and submaxillary glands, which were perfectly involved in the disease mass.

It will be noticed that Nelaton describes scirrhus of the parotid gland as developing itself from above downwards. McCellan pointed out that in some cases of disease of the gland it gradually raised itself out of the triangular space in which it is placed, so as present fewer difficulties in removal than when in a healthy state. Dr. N. R. Smith speaks of its even becoming "pediculated." Pancoast attributes to Randolph the first observation of this fact.

In the first operation which I performed, the finger passed under the gland from below upwards with a facility which surprised me. The disease was a scirrhus of the gland.

While admitting the difficulty of distinguishing between cases of disease originating in the tissue of the gland and those extending to it. I am not prepared to believe that any well informed surgeon need be in error in regard to the parts actually removed by operation. I am in the habit, after all such operations, of examining the tissues with a magnifying glass, of having them examined with the microscope, and of carefully inspecting the whole surface of the wound for any suspicious tissue. I generally, and always unless some reason for a different course appears, defer closing the wound until

the oozing of blood has entirely ceased. By thus carefully proceeding, mistakes can be, for the most part, avoided.

In the lecture referred to by a Professor in the Lind University, the opinion was advanced that the parotid, with the exception of enchondroma, is absolutely exempts from disease. This assertion was not called in question by any one except Dr. Paoli, who, in a recent No. of the *Louisville Journal*, has published a valuable article on the subject.

This is so gross an error that it ought to be at once detected by any medical practitioner, and in order to place the subject in its true light I here transcribe, from my notes for lectures, authorities sufficient to leave no doubt in the mind of any person desirous of learning the truth on the subject.

Dr. J. H. Bennett relates a case of disease originally in in the parotid gland, having all the appearance of malignancy. Mr. Syme advised against an operation. The patient died. Mr. Bennett found no cancer cells, and considered it cancroid. He also quotes a similar case from M. Sedillot, in which a tumor, having all the characteristics of malignancy, ulcerated and soon entirely destroyed the parotid gland, but as no cancer cells were found, Sedillot considered it cancroid. This also proved fatal.—On Cancers and Cancroid Diseases; Edinburgh, 1849, p. 83, *et. seq.*

Dr. Lebert (*Traite Practique des Maladies Cancereuses*, p. 703) says: "We have observed, for our own part, cancer of the parotid gland three times." "The developement, march, termination, and treatment of cancer of the parotid, are about the same that we have indicated for cancer of the lymphatic glands." "But it should should be remembered here that cancer of the parotid, in its progress, involves the jaw, and in case of extirpation all the part of the bone diseased should be taken away."—Ib., p. 704.

"The tissue of the parotid sometimes becomes, though rarely, the seat of a scirrhus degeneration." "Extirpation is the only means that we can oppose to this disease." "When the whole of the parotid is to be removed, the plan which appears to us preferable is that which was proposed by M. Begin, (Roche, Sanson, and Lenoir.—*Nouvaux Elements de*

Pathologie Medico-Chirurgicale, p. 115, vol. iii. Paris, 1844.)

Nelaton, in the second volume of "Pathologie Chirurgicale," page 714, *et. seq.*, gives a very full and succint review of the diseases of the parotid. Besides wounds and salivary fistulae, he describes:

1. Abcesses, which among other points of origin "may be in the salivary gland itself."

2. Concretions and salivary pouches. "These concretions," he says, "are liable to obstruct the flow of saliva so that these result sometimes in a voluminous tumor, oblong, indolent, circumscribed.

3. Cysts; of which an example is quoted from the bulletin of the Academy of Medicine, vol. 1, p. 56.

4. Hypertrophy. Of this two examples are quoted from A. Berard and Sabbatier.

5. Fibro-fatty and Melanotic.

6. Sanguine tumor.

7. Cancer. There are some cases where the parotids present a cancerous degeneration. Mekel has dissected a certain number, and Berard reports some examples in his thesis, already cited. When the gland itself is degenerated, we find usually a scirrhus instead of an enaplalous tumor. This tumor remains a long time indolent, small, and of a stony hardness.

Treatment.—The extirpation of the tumor is the only means of relieving the patient. Neither its considerable volume nor its adhesion to subjacent parts, nor ulceration of the skin ought to be considered absolute contra-indications to the operation.

The facts which render it probable that the gland has been entirely removed, are those of Warren, Kirby, Milman, McC'elland Preiger, Raymond, Charmichael, and Gensoul. Those which prove that the gland has certainly been removed are, according to M. Berard, those of Randolph, Smith, Lisfranc, Gensoul, Beclard, Bramberg, p. 73.

Chelius.—The removal of the parotid gland belongs to the most difficult and dangerous operations, as the close connec-

tion of the gland with the important neighboring parts render necessary the wounding of very important vessels and nerves, etc. P. 523, vol. 3.

Cases of the removal of the parotid gland are related by Preiger in Von Graffae and Walther's *Journal*, vol. 2, p. 454, and in *Rust's Magazine*, vol. 19, p. 303.

Barendts, ib. vol. 13, p. 159.

Schmidt, ib. p. 312.

Weinhold, *Sulzberg Med. and Chir. Gazette*, vol. 4, p. 63; 1823.

Beclard, Archies Geerales de Medicine; 1824. Vol. 4, p. 62.

Chelius, Heidleberg Clinical Annals, vol. 2, p. 2.

Kirby, J., Dublin, 1825.

In the case of Dr. Preiger, the tumor weighed two pounds and three quarters, and the operation lasted seven minutes.

In summing up this testimony on the subject in 1842, Reese, in his Notes to Samuel Cooper's Surgical Dictionary, p. 259, vol. 2, said:

"The parotid, in a scirrhus state, can be entirely extirpated."

"In Dr. Preiger's, Mr. Kirby's, and of McClellan's cases, the trunk of the external carotid was left untouched."

Mr. Goodlad's case is reported in the Med. Chir. Transactions, vol. 7, p. 112, and vol. 8, p. 582: "The disease extended from the external canthus of the eye above, to within three quarters of an inch of the clavicle below, and some idea of the depths of its attachments may be formed, when it is known that the whole of the parotid gland is involved in it." "*The parotid gland was entirely removed.*—Samuel Cooper's Dictionary, p. 273, vol. 1.

In vol. 2, p. 101, Transactions King's and Queen's College of Physicians, Dublin, 1818, is reported Mr. Charmichael's case, "The tumor was very large, involved the parotid gland, and connected with the transverse process of the atlas, the basis of skull, the meatus auditorius, mastoid process, and the angle of the jaw." The case was successful.

Klein operated on a women of seventy, "The swelling

extended from the ear to the shoulder." "The internal carotid artery and the par vagum were left quite bare." "The bleeding was very inconsiderable." "The operation was so successful that in the beginning of the third week the wound was healed.—Ib.

Beclard's case was for a scirrhus of the parotid alone. Samuel Cooper says the following inferences are deduced from this case: 1. "The reality of the scirrhus of the salivary glands is confirmed." 2. "The possibility of removing the parotid demonstrated."—Ib. p. 274.

This case proved fatal, and an examination was made after death, so that no dispute concerning the operation being the entire removal of the parotid gland could arise.

There is no surgeon who did so much to establish the operation of extirpation of the parotid gland as a legitimate one in surgical practice, as the late Dr. Geo. McClellan, of Philadelphia. Much of the acrimony which has been introduced into this discussion has no doubt arisen from that controversy in a great measure personal, and foreign to the purely scientific question, into which he was drawn by the attacks upon his character as a surgeon. These attacks, prompted by the same motives, are still occasionally made upon those who propose the operation.

Dr. McClelland says, (Principles and Practice of Surgery, p. 352,) "I have extirpated *eleven entire parotids*, in various conditions of organic disease, and only one of my patients died in consequence of the operation."

"The next case which occurred to me I turned over to my son, who successfully removed an enormous tumor, involving the whole parotid, an immense mass of lymphatic glands, extending down the neck, with the common carotid artery, the internal jugular vein, the par vagum, spinal accessary, and portio dura nerves. The patient, George Andrews, of Washington, Pa., went home in four weeks, with the wound entirely healed."

This case is worthy the attention of those who think the relations of the gland to the great vessels are such as to render an operation impracticable, even when it does not touch them.

But this appears to be the only case of operation on record in which those vessels were involved. In one of Dr. McClelland's cases the external carotid did not require a ligature. "Before he proceeded farther he isolated the continued trunk of the external carotid just as it was entering the tumor together with the descending veins, which accompanied it, and, instead of cutting them across, in the usual manner, he tore them out from the body of the tumor with the thumb and fore-finger." The vessels bled for a moment only, and ceased without a ligature.—Ib., p. 334.

In one of Dr. McClelland's cases, (Mr. Socher,) death took place from an abdominal disease, eighteen months after the operation, and the body was carefully examined. No trace of the parotid gland could be detected.—Lecture on the Parotid Gland, by G. S. Pattison, 1833, p. 13.

The case of John Bell is related in his Principles of Surgery, New York, 1810, p. 507, *et seq.*: "The tumor, of the size of a goose,s egg, was once removed with about half the gland. It returned and Mr. John Bell removed the whole of it.

Liston (Lectures on the operations of Surgery, Philadelphia, 1846, p. 308,) says, on the subject of of Diseases of the Neck: "Tumors of this region occur in different aspects and corners of it. You meet them at the upper part of the neck and at the angle of the jaws. They sometimes arise from a degeneration of the salivary glands; but that is not a common occurrence." "Sometimes they are very firmly fixed, but after all they come out easily enough."

Colles, who was one of those who, for anatomical reasons, believed the removal of the gland impossible, (was it because Charmichael had performed the operation?) says, under the head of Salivary Glands: "They are sometimes the seat of scirrhus."—Lectures on the Theory and Practice of Surgery, Philadelphia, 1845; p. 107.

Rokitansky enumerates, among the diseased conditions observed by himself in the parotid, inflammation, cysts, fibrous, cartilaginous, and osseous growths, etc.

"Carcinomatous disease occurs in the parotid and salivary

glands, and especially in the parotid, in the shape of scirrhus and medullary cancer.—Path. Anat., vol. ii, p. 141.

Warren gives a minute and accurate description of the tumors of this gland:

"The parotid gland is the seat of two species of induration, one in the lymphatic glands situated about it, which is quite common; the other a genuine induration of the gland itself, which is quite rare."

"The induration or scirrhus of the parotid gland begins deeply in the space between the branch of the jaw and the mastoid process. Its confined situation renders it painful at an early period. Being confined on the sides by bone, it extends outwards and downwards, assuming a conical form in all the cases which I have seen. This tumor is of a scirrhus hardness." "Ulceration does not take place in a long series years."

"The scirrhus state of the parotid being incurable by remedies, a surgical operation is the only resource. An operation requiring some degree of skill, coolness, and a knowledge of anatomy."—On Tumors, p. 286, 287.

On the subject of these diseases, Dr. Gross says: "All the salivary glands are not equally liable to morbid alterations. The parotid is infinitely more frequently affected than the others." "Parotitis, under favorable circumstances, may terminate in suppuration. Of this I have witnessed a considerable number of cases, in two of which an opportunity was offered of making an autopsic inspection." Gangrene has been known to seize on the parotid." "The salivary glands, especially the parotid, are subject to atrophy." "True scirrhus is occasionally met with in the parotid, as are also encephaloid and melanosis."—Path. Ant., p. 518, 519.

Baron J. D. Larry removed the parotid gland for cancerous disease, March 19, 1841. Numerous enlarged lymphatic glands were discussed by a long course of treatment when "there remained the parotid tumor of the form and size of a large hen's egg, deeply situated between the ear and the ramus of the jaw. It was soft at the center, hard at the circumference, and slightly movable.

On the 70th day the patient was entirely recovered, the sensibility and the movements of the side of the face, which had been destroyed at first, were restored in part.

In concluding the report of this and a case of removal of the submaxillary gland, M. Larrey remarks "From these two examples of complete success obtained by extirpation of salivary glands, (the parotid and submaxillary) we may conclude that this extirpation is practicable, and may be performed without danger to the life of the patient."—*Memoire sur L'Extirpation des Glands Salivaire*, Paris, 1841; pages 21 and 22.

From these authorities alone, (and many others might be cited,) we may safely conclude that the parotid gland is subject to disease, and that its removal in favorable cases is both possible and advisable.

I add a list of nearly one hundred operations of the kind, omitting above fifty others, concerning which my information is too limited to enable me to judge of their value. Some of those inserted have been objected to on grounds which appear insufficient. Of those cited from American sources, I see no reason to doubt the correctness of a single one. I have omitted eleven cases of this kind on account of insufficiency of the details:

Chelius	8	
Preiger	1	1826
Barendts	1	
Schmidt	1	
Weinhold	1	
Beclard	1	1823
Goodlad	1	
Charmichael	1	1818
Lisfranc	1	1826
Manfredini	1	
Idrae	1	
Kirby	1	
Busche	1	1827
Carried forward	20	

Brought forward	20	
Samuel White	1	1808
Geo. McClellan	11	
Klein	1	
J. H. B. McClellan	1	
Gensoul	2	1828
Seibold	1	1781
Scultetus	1	
Gooch	1	
Behr	1	
Palfin	1	
Verduin	1	
Acrel	1	
Carried forward	43	

Brought forwaad	43		Brought forward	67	
Astley Cooper	2		L. Herminier	1	
Dav. Prince	1		Heyfelder	1	
J. C. Bradbury	1		Berret	1	
J. C. Warren	1		M. N. Fouthern	1	
Mott (several)	3		A. Magri	1	
N. R. Smith	1		Hendricks	4	
Randolph	1		Eulenberg	1	
Roux	1		Stedman	1	
Cordes	1		Awll	1	
Warren (Elder)	1		Eckstrum	1	
J. D. Larrey	1		Anisaux	1	
J. C. Bradbury	1		McGregor	1	
Van Sweiten	1		Widmer	1	
Roonhuysen	1		Ohle	1	
Gottfried	1		Dieffenbach	1	
Errhart	1		Wallman	1	1828
Scharschmidt	1		Bendz	1	1838
Soucramp	1		Naegle	1	1830
J. B. Seibold	1		J. Bell	1	
Moulinia	2		Brainard	2	
Carried forward	67			91	

ARTICLE 2.

SYMPATHETIC OPHTHALMITIS, AND CERTAIN FORMS OF CHRONIC IRITIS.

BY E. L. HOLMES, M. D., CHICAGO.

(Continued from page 513.)

II.—Chronic Iritis.

Inflammation of the iris must always be regarded as one of the most grave diseases to which the eye is liable. It terminates, when not arrested by suitable treatment, invariably,

almost, with great diminution or complete loss of sight. Fortunately, the early stages of this affection, *uncomplicated*, yield satisfactorily, in a majority of instances, to appropriate remedies, and the eye escapes without permanent injury.

Still, we often meet with patients suffering from chronic iritis and the consequent impairment of vision. For, with the most careful attention on the part of the physician and patient, the inflammation will occasionally become chronic and obstinately resist the influence of every remedy; patients will not unfrequently apply for advice who have been unskillfully treated by ignorant practitioners, or who have wholly neglected medical treatment till a cure had become entirely hopeless; patients will often be imprudent and from necessity or carelessness, expose themselves to the exciting causes of relapse. It is well known that the iris, during convalescence from an attack of inflammation, is for a long time liable to relapse from slight causes, even when it has, to all appearances, assumed its normal aspect. Two of the severest cases of secondary iritis I ever saw were caused by acknowledged imprudence on the part of the patients themselves. The eye in each case, had almost entirely recovered. Exposure to cold winds and bright sun-light reproduced the most violent symptoms, which continued for a long time, and finally left the eye with vision permanently injured. From these, and perhaps other causes, every surgeon with extensive ophthalmic practice, meets with a large number of cases of chronic iritis. These cases, when apparently relieved, are exceedingly liable to relapse, each attack leaving the eye in a worse condition that before.

Von. Graefe, of Berlin, after a careful investigation of the subject for several years, with an opportunity of analyzing a large number of cases, made the important discovery *that adhesions of organized lymph between the lense and iris, was the predisposing cause of relapse in chronic iritis.* However difficult may be the explanation, there is no doubt of the fact, since the observations of v. Graefe have been numerous and have been verified by many ophthalmologists in England and on the continent of Europe. With regard to this disease it

may be stated generally, that "Iritis, which has healed without adhesions between the lense and iris, is comparatively seldom subject to relapses: Iritis, with only minute elastic adhesions, will occasionally be in danger of secondary attacks: but when the disease is followed with extensive adhesions, which withstand the influence of atropine in dilating the pupil, it is almost uniformly liable to relapse. There is scarcely an exception to this rule, when the whole pupilary edge of the iris is attached to the lense, or when the pupil is much contracted and closed with lymph."

In these cases the relapse occurs from the slightest cause, or even from no apparent cause. The patient experiences, especially at night, dull pain, to a greater or less degree, in the eye or in the temple and brow. There is usually photophobia, with tenderness on pressure over the region of the ciliary processes. The sclerotia, near the circumference of the cornea, assumes a light red or pinkish color. The iris, as also the aqueous humor, becomes discolored. These symptoms increase in severity, or possibly continue for a long time without much change, annoying the patient, and even when only one eye is affected, rendering the other eye, (by sympathy,) almost entirely useless, till relief is obtained, which is, in most instances, merely temporary.

In these cases, as in the cases of foreign bodies in the globe, the tissues which are principally implicated are the iris and choroid. Disorganization of these and the other structures of the eye, often progresses till the eye becomes atrophied and completely amaurotic, when all inflammatory action may possibly cease. In cases of penetrating wounds of the eye, with persisting inflammation and obstinate chronic iritis, with total loss of vision, the removal of the affected eye, as we have stated, is probably the best course of treatment for the preservation of the other eye.

But in chronic iritis, (irido-choroiditis,) *with extensive adhesions of lymph*, where there is still a certain amount of vision, or perception of light, the treatment which v. Graefe adopted, and which he employed in a large number of cases

before publishing his results, consists in removing about one-sixth of the iris, as in forming an artificial pupil.

Why this operation should afford so great relief in so many cases, is somewhat difficult to explain. We will not tax the patience of our readers with a sketch of mere theories, but refer those interested in the subject to the paper of v. Graefe, in particular "Archiv f. Ophthalmologie," vol. ii, part 2; to the London Ophthalmic Hospital Reports, vol. i, pages 57 and 216, and also to Desmarres' work on Diseases of the Eye, vol. iii, page 371.

At present it is our object simply to state the fact that in very many cases after the operation, the conjestion diminishes, the eye becomes less painful, the iris and aqueous humor assumes a more natural aspect, the organized lymph disappears, and the vision is restored, to a greater or less extent, according to the previous condition of the eye.

The operation, although simple, requires considerable care and delicacy of manipulation, and should only be performed after the more acute symptoms have somewhat subsided.

It is usually advisable to administer chloroform, to insure perfect control over the movements of the eye. A small incision, a line or two in length, is made into the anterior chamber, by passing the point of a lance-like knife through the sclerotic a half line behind the cornea. With care there is no danger of entering the posterior chamber, since the plane of the iris lies behind the union of the sclerotic and cornea. Through the opening thus made a fine pair of curved forceps is passed as far as the pupilary edge of the iris, for the purpose of seizing and withdrawing a portion of this membrane, which should be excised close to the cornea, by means of a pair of scissors. When the whole cornea is transparent the lower and inner portion of the iris should be selected for removal. In cases of opacity, the artificial pupil should, of course, be made behind the most transparent portion of the cornea.

After the operation, the lids should be kept closed for three or four days, by means of strips of delicate plaster, and the eye surrounded with wet compresses.

There is very little danger of subsequent inflammation. In three cases of my own, and in many cases which I have seen under the care of others, I have never observed any ill effects from the excision of a portion of the iris, as above described.

It is of great importance to the patient that the operation be performed before the disease has too far advanced. Whenever there is atrophy of the globe or whenever the posterior chamber is separated from the anterior by occlusion of the pupil from organized lymph, forcing the iris anteriorly towards the cornea, an operation seldom affords relief.

In the last number of the *Journal* we called the attention of its readers to a few facts regarding the *prevention* of sympathetic ophthalmitis. In reference to the *curative* treatment of this disease, when it is once established, we have only to add that there is scarcely a hope of benefit except from the excision of a portion of the iris. In many instances the congestion and neuralgic pain can thus be reduced and loss of vision prevented. It is almost needless to add that this operation should be preceded by the removal of the eye-ball primarily affected.

We earnestly urge upon our readers a careful consideration of the subjects of this paper. Although there are, comparatively, few patients suffering from the diseases of which we have spoken, it must be remembered that every physician *may* meet with them, and in more than one instance, by skillful treatment avert so great a calamity as blindness.

ARTICLE 8.

NERVOUS AGENCY IN INFLAMMATORY ACTION.

BY L. S. ELLIS, A. M., M. D., CHICAGO, ILL.

It may not be my privilege to present anything new, unheard, or unthought of, on the above topic; but I hope to present existing knowledge and hitherto expressed opinions,

scattered through more modern medical literature, so as to make them bear more directly on therapeutic measures and curative appliances. Thereby a sound and immovable basis will be found for principles in medical treatment which are fast gaining the ascendency at the present time. Greater revolutions transpire neither in the moral or political world, than constantly and almost imperceptibly occur in the medical profession. There is no principle so well founded as not to bear and require an occasional review in the accumulated light and labors of shining and laborious men in our ranks. Observers multiply in every department; the storehouse is rich in their accumulations; gleaners and gleanings are abundant, and minds are not wanting who comprehend all these, and will, out of all this apparently confused mass, bring out a system so in accordance with nature's laws, as that our ministrations for her relief shall be more and more in harmony therewith. Dr. Todd has well said, "It will not be affirmed by any one, that the doctrine of a science so abstruse and so difficult as pathology, should not be reviewed and reconsidered from time to time. There never was a period when the candid and ample reconsideration of general pathology, promised more fruitful results than at the present time. Our vastly extended acquaintance with anatomy and physiology, the greatly enlarged security of the basis on which the knowledge of function rests, the much increased accumulation of facts of clinical history, all afford the most important data for new inductions." Actuated as he was by such comprehensive views, we lament that his light, so brilliant, has so soon gone out, and labors so enthusiastic have so soon terminated. The light of life has indeed gone out. The light of his mind shines with no diminished lustre, and contributes to establish wiser physiological and pathological principles and more successful remedial appliances.

My earliest lessons learned about inflammation embraced the question duly considered, as to whether inflammatory action consisted in increased or diminished action in the vascular system, and as determined, blood-letting took its place among general principles as a stimulant or sedative. "Sthenic

or asthenic" were as household words, and doubtless have been, and are, words of mighty import in the minds of many of the teachers and the taught of our profession. Information acquired from the clinical experience of others, observations in practical life, and more extended research, carried the conviction that the "*Fons et origo*" of inflammation must be sought behind any increased or diminished vascular action. The first visible change in muscular contraction, is a shortening of the muscular fibre, but the real primary change is in the nervous filaments associated with it. The nervous system has an immediate influence upon all the molecular changes occurring in the system, whether of nutrition, secretion, &c., or their abnormal action, constituting inflammation, or disease in any of its protean shapes. I shall assume, and endeavor to prove, that *nervous irritation is the primary change in the pathology of inflammation*, and that all consequent changes occurring in the vascular system or other structures, are but sequences, and that we must seek for the relation of disease and treatment in this primary nervous change. In support of the foregoing proposition I shall adopt the following order in argument:

First—The Anatomy and Physiology of the ultimate nerve fibres, and of the capillary system.

Second—Microscopic Appearances in Inflammatory Action.

Third—Effect of Irritation at the centre or along the course of the nerves.

Fourth—The Mode of Action of Remedial Measures.

Fifth—Opinions of Authors and Teachers.

Sixth—Practical Inferences.

It may not be amiss to contemplate the nervous system, embracing the brain, spinal cord, ganglia, and filaments, as the "neuro skeleton." The other structures, such as bones, muscles, blood-vessels, &c., stand as supports, instruments, and ministers to its wants and destiny. All other functions are but subordinate to the controlling influence of the nervous power. A portion of the nervous system, ever vigilant in duty exerts its influence in the growth of tissue, and does its part in maintaining the integrity of the whole from never-

ceasing waste. Other filaments stand as myriads of sentinels on the outposts, to guard the body as the mind's instrument. Others, still, as conveyors of special sensation, educate the mind for a higher sphere and a noble destiny.

The anatomy of the ultimate nerve fibre is still involved in no little obscurity. Dr. Draper says that "the nerve fibres terminate in various ways. Their ends may thin out and become free, or they may form a loop and so return back in their course."—Physiology, p. 263.

It is not unlikely that the nervous distribution to the capillary system is accomplished by one or the other of the means mentioned by Prof. Draper. The hindrance from that obscurity regarding their anatomical structure, is overcome in a great measure by physiological research, and the phenomena of nutrition, secretion, &c., prevent a necessity for the presence of nerves, for their influence in these molecular changes, ever varying from impressions on the nervous system. "It can scarcely be doubted, that it is by some influence exercised over the molecular actions, to which the blood is subject in the capillaries, that the nervous system can operate on the functions of nutrition, secretion, &c., and this influence may not be improperly termed *vital*, if, by so designating it, we merely imply that its nature and mode of operation are unknown, but that it is closely connected with those actions which are altogether peculiar to living beings. All the facts which bear upon the question of the connection between nervous agency and the forces maintaining the capillary circulation, have an equal relation to the functions of nutrition and secretion in general; and as already shown the nervous system also influences these by the control it exerts over the diameter of the blood-vessels."—Carpenters Phys.

While thus we have an influence exerted over the phenomena of nutrition and secretion in their normal operations, we have a like influence, which, if disturbed, will exert a power to disturb and modify nutrition and secretion. This influence is sometimes exerted in exciting, sometimes checking and modifying these functions. Thus every one is familiar with the effects upon the vascular system of severe concussion of

the brain. So with mental impressions—nervous anxiety has a marked influence over these functions.

So delicate and complete is the arrangement of the capillary circulation on the surface, that the prick of the finest needle wounds several of these vessels, and also causes pain, showing that the distribution of nerves is equally minute and complete and that nerve fibrils stand as sentinels to guard each minutest point. Each papilla has its numerous nerves, not one is destitute. Each muscular fibre has its accompanying nervous filament, acting simultaneously on each muscle cell. Cruvielhier says that nerves act on muscular fibre by contact, and not through a nervous atmosphere, as claimed by Dr. Reil. Thus, by reviewing all the tissues, we would find a sufficiently ample distribution of nerves to take their place and exert their influence in the phenomena of inflammation.

The microscopic appearances in inflammatory action are familiar to each member of our profession, but it may not be amiss to mention some of the leading characteristics, as a connecting link in the argument. The first effect of an irritant upon the smaller vessels of the part is comparatively slight, but important in its bearing. It may cause a slight contraction or expansion of the walls of the capillary vessels. At the same time the blood slackens or even retrogrades, as if it had received some shock through a medium between the irritant and itself. Very soon the vessels dilate, and the blood, as if recovered from its temporary shock renews its course with increased velocity. Shortly afterward the blood slackens in its course again, and this may continue till complete stagnation occurs. Here the phenomena may end and the blood resumed its course, and the vessels their normal calibre, or all the further results may follow in their usual course. Other changes in the constituent elements of the blood may recur during this time, but they are not of importance in the examination now before us. They all occur as sequences or as results of earlier changes. These changes, no doubt, follow the abnormal nervous influence which first produced the change in the blood vessels and the movements of their contents. We have seen that a distribution of nerves, uni-

versal in regard to the body, is proved by anatomy and physiology, and here, in inflammation, we have an influence primary, and continued so long as the irritant continues; we have local shock upon the blood in the capillaries, parallel to the universal shock in concussion, while all the subsequent changes are directed so as to accomplish the removal of the irritant to the nerves of the part.

It is proper next to notice the effect, at the periphery, of irritation at the center, or along the course of the nerve. In all instances this is followed by increased action in the capillary system, and when a gland is involved, by increased activity in its functions. By the division of the nerves distributed to any part, inflammation, with all its train of symptoms and results, follows in rapid and sure succession.

M. Claude Bernard says that by exciting the solar pexus and its efferent branches, both diarrhœa and dysentery occur, and all the habitual anatomical lesions are present; acute peritonitis has been induced, with all its consequences. Fever itself, that essentially medical symptom, can be excited by mere mechanical irritation of the nervous system. Pleuritis, with purulent deposit, may be induced in an animal previously enfeebled, by division of the great sympathetic nerve.

"It is therefore, a fact that the perverted state of the nervous system, gives rise to a great variety of diseases, not only of a general, but also of a local character; deprive a muscle or a bone of its nervous supply, and you will have as a consequence, fatty degeneration in the one case, and rickets in the other; in fact, if you tie the nerves which enter the nutritive foramina of a bone, you will very soon see the cells of the lamellar structure increase in size, the vessels become more numerous, and all the phenomena of rickets follow in rapid succession."—M. Claude Bernard's Lectures.

In experiments on the moter nerve of the parotid gland this same distinguished observer found that by galvanization of its peripheric extremity after it had been divided, an abundant secretion takes place from the gland, and the venous blood becomes a bright red, a phenomena always observed when the gland is in state of activity.

"Division of the fifth pair of nerves within the cranium, or of its ophthalmic branch, is followed by inflammation of the corresponding eye, which usually goes on to complete and permanent destruction of the eye. Immediately after the operation the pupil becomes contracted and the conjunctiva becomes insensible. The inflammation soon spreads to the iris which becomes covered with a layer of inflammatory exudation, the cornea increases in opacity and becomes ulcerated and the humors discharged. Sometimes the inflammation subsides and sight is restored."—Dalton's Physiology, p. 397.

Sufficient evidence is thus found to indicate clearly that irritation at the center, or along the course of the nerves will produce inflammation at the periphery. In this connection it must be observed that the primary change is in the nerve and that the vascular changes occur only as influenced by the change in the nervous system.

The *modus operandi* of remedial measures becomes an important question in this connection. It is the every-day experience of every practicing physician, that the effect of remedies becomes an important aid in the diagnosis of obscure disease. We may gather much of our knowledge of the character of any epidemic constitution of prevailing disease, by the effect of remedies. So the action of medicines becomes of equally important bearing in any inquiry concerning more general disease. Space forbids a full discussion of the action of remedial agents in inflammation. Bloodletting enters largely into the discussions of our standard authors in the treatment of inflammation, but it is so little practiced in every-day life that it scarcely deserves consideration save in works complete as treatises. Legitimately employed, it becomes an aid to nature's efforts to rid itself of the source of disease. By bloodletting its advocates propose so to change the quantity or quality of the blood as to render it more efficient in its office, or "restore the relation of the vessel and its contents." But in inflammation, waste and repair lose their equilibrium. The nervous influence has lost its power to sustain nutrition, and waste goes on, not only with wonted, but increased activity.

In this light he proceeds with caution who thrusts the lancet for general bloodletting. But the nervous system may be overwhelmed by the accumulated blood, changed in character and quantity. The nerves demand a relief from the burden to give them again an opportunity to resume their control over the vessels. Then bloodletting comes in as a rational adjuvant in the process of restoration.

So in the action of a cathartic on the abdominal viscera. The temporary relief of the conjested parts affords a rallying point for the nerves, and they again resume their office and influence in the multiplied functions of the parts. But these more general considerations must give place to a study of more specific remedies. Among these opium stands foremost. On the question of its action, Headland says: "The operations for which opium is most famed are actions on the powers which are universally attributed to the nervous system. The effects of opium occur immediately on absorption, a suddenness of action found in no medicine that acts on the blood. Opium produces no direct change in the blood, and has no chemical power of initiating such change. We may, therefore, reasonably conclude that opium acts on the nervous system immediately and bodily, without the intervention of the fluids otherwise than that they carry it to the part on which it tends to operate. Opium acts on the nervous system, and this is its primary and chief action. How it exerts its power over nerve, or how nerve medicines in general exert such power, I do not pretend to say. *I conceive that it is by a certain intimate or molecular relation existing between the particles of the agent and the particles of the nerve acted upon.*"

Within a few years past opium has received much attention from observers, and its rank in importance has been greatly advanced. It is now considered a powerful remedial agent, instead of a mere *placebo* to quiet pain, nervousness, &c., while the treatment proper was accomplishing its intended office. This view no longer holds with inquiring minds. Opium stands as the *sine qua non* in the treatment of large and important classes of disease. It has been demonstrated

beyond peradventure by Dr. A. Clark of New York that opium alone is sufficient, if timely administered, to control the severest cases of puerperal peritonitis. General peritonitis yields equally surely to its influence. Inflammation of the pleura, in its incipient stage, more especially, yields to the magic influence of opium. I believe that it only wants a clear head and brave heart, to show that it would have a like influence, if timely administered, in inflammations of the meninges of the brain. Every one knows its importance in the treatment of all inflammation or irritation of the mucous membrane. Accepting the explanation of Headland, on its manner of action, we have a clear exposition of the reason of its control over inflammation, as shown above, and we have an unanswerable argument pointing to the nervous system as sustaining the primary lesion.

But before we leave this division of the discussion, we must briefly notice the action of a few other remedies. The popularity of arnica in irregular practice is well known, and its valuable properties are becoming known to the profession, and where known it is extensively used. "We know little of the ultimate action of any medicine or external application, but the probability is that arnica produces anæsthesia of the cutaneous nerves, and exerts some influence on the ganglionic nerves which surround the blood-vessels and regulate their action, for it certainly arrests the formation of thrombus and ecchymosis."—*London Lancet*, Feb., 1860, p. 93.

Dr. J. R. Cushing, in the *Atlanta M. and S. Jour.*, says: "I believe aconite has a direct curative action through its influence on the nervous system, independent of its nauseating properties."

"Dr. Headland says: "It acts especially on the superficial sensory nerves, and tends to extinguish feeling and pain."

Quotations in this connection might be multiplied but the growing proportions of our article warns us to turn to other considerations. All along through our standard works we find intimations pointing towards the conclusions we have endeavored to arrive at. Such a thing may be, say they, but no therapentic measures are based thereon, and hence the

intimations are practically valueless. After stating that there is no warrant for assuming that the vital contraction of the capillaries produces the changes observed in inflammation.

Dr. Watson says; "The inquiry might be more properly directed, I think, toward the vital conditions of the *nerves* of the part."

Dr. Wood says, in writing on the theory of inflammation: "An irritant cause acts on a part of the body, either immediately from without, or through the blood, or by the instrumentality of the nerves. Morbidly increased action or irritation is excited in the part, embracing, probably, all its vital constituents as well as the ultimate molecular or cell structure, as the blood-vessels and nerves."

Overlooking a rather free generalization, which places Dr. Wood in a safe position, in the above quotation, we have an admission which carries us at least a part of the way in the position taken.

Dr. Todd, in his excellent and last work, in his Eleventh Lecture on Pneumonia, says: "The real nature of the organic changes which constitute this state of active conjestion, may be thus explained: Some matter introduced either through the bronchial tubes with the inspired air, or through the blood, irritates a certain portion of the lung; in other words, *disturbs its nervous influence and deranges its nutrition.* The immediate result of this nervous derangement is an increased action of the heart, a dilated and enfeebled state of the contractile walls of the finest capillaries, which offer no resistance to the flow of blood to that part, and allow it to accumulate there in greatly increased quantity. This relaxed state of the capillary wall increases the size of its pores, and allows a freer transudation of liquor sanguinis than takes place in health, and giving rise to those subsequent changes which produce the condition of red hepatization."—p. 237.

I have continued the above quotation farther than needful for my purpose, but the whole is worthy a place anywhere, and especially in the mind of every member of our profession.

M. Claude Bernard says: "It is to the nervous system

that we owe both sensibility and voluntary motion, that two-fold source of all our relations to the external world; it presides over all organic functions, and it is my intention to prove to you, that while it is the origin of all the normal phenomena of life, *it is also that of all pathological action.*"

M. Bernard is not a man that would intend to prove a very doubtful problem in physiology, and our position receives strong confirmation in the above quotation from his lectures.

Hastening to a conclusion, some practical inferences must be drawn from the positions taken and supported, perhaps, by arguments not altogether specious, and facts not wholly misplied. If we arrive at the conclusion that nervous irritation is at the foundation of all inflammatory action, it points toward an important indication in treatment, and sets a deffinite limit on the so-called anti-phlogistic measures. It is a maxim in medicine, that he is the safest and wisest practitioner who, knowing well the physiological functions and pathological changes, watches closest, and follows the natural curative process. A foreign substance in the body produces irritation. All the subsequent changes are solely for its removal. The lesson is, remove the cause of irritation, all the steps of inflammation are immediately arrested. Pneumonia, by nature's process, terminates by free sweating, increased flow of urine, and free expectoration. Nature points to her process as an indication whereby this "disturbed nervous influence" may be relieved. Peritonitis terminates by a gradual subsidence of pain and tenderness, cessation of vomiting, and diminished frequency of pulse; sometimes with sweating and free discharge from the bowels or kidneys. What will come so near fulfilling these indications as opium, and what has been proved so efficacious in practice? Here, we may suggest, the remedy acts on the nerves of the part "immediately and bodily," as indicated in the cessation of pain, indicating nervous irritation.

Now this abnormal nutrition, or nervous irritation, to which we give the name of inflammation, is a *depressed state of the vital powers* of the part, and, in extensive inflammation, of the whole system. It is a direct and legitimate effect of the

irritant on the nervous system. He who watches for a case of increased vital power or sthenic action in inflammation, will look long. He who practices bloodletting, administers cathartics and emetics, on the principle of sthenic action, will impose upon nature a double burden to bear, and his subsequent measures must be doubly diligent, or his patients will present, not "living witnesses," to his mind, if an observer, of his error. Bloodletting is a remedy so long as it is a recuperator. When it goes beyond unburdening the nervous system, and diminishes nature's material for repair, it becomes pernicious. As already intimated, there is an increase in the waste of tissue. Nutrition is deficient and abnormal, and instead of diminishing the supply the more rational course is to increase the materal. Every step throughout the entire process of inflammation is productive of debility. The increased heat is only a manifestation of rapid oxidization and waste. Pus and Lymph are produced from the blood and tissue, and involve exhaustion. The elimination or absorption of these deposits exhausts the power of the constitution. All these point unmistakably to the principle of treatment. Put no obstruction in the way of the natural process of recovery, nor exhaust nature's powers, but maintain the equilibrium, as far as possible, between waste and repair, and allay irritation by remedies addressed to and acting directly on the part.

ARTICLE 4.

DIPHTHERIA.

BY DR. A. K. VAN HORN.

Some account of the so-called disease, as it prevailed in the Northwest, and especially in Rock Run, during the summer and autumn of 1860.

Late in the Spring, a disease characterized by exudation

and ulceration of the fauces, made its appearance in the village of Rock Grove, ten miles distant, which was christened and treated by the Physicians, as diphtheria, or Euro pean fever.

It prevailed chiefly among children; but in some instances attacked persons above the age of puberty. The mortality was very high, and the disease ran its course in from two days to a fortnight.

Sporadic cases of a mild character occurred in our practice during the summer months, but not till some time in August did the disease assume a malignant form. A description of one or two of these cases will give a good idea of the pathology, as the symptoms of all are very similar, and afford a foundation for some deductions, going far to prove, either that many practitioners err in the diagnosis of the disease, or that diphtheria is identical with scarlatina.

Case 1.—John R——b, a lad about 11 years of age, of remarkably nervous temperament, was attacked about August 10th. He complained of languor, weariness, pain in the back and limbs, intense headache, and nausea, followed by violent vomiting and purging. His skin was dry and hot, pulse frequent and feeble, was delirious at night. He complained of soreness of the fauces and stiffness of the jaws. On inspection, found the mucous membrane congested, and the fauces partially covered with a thin curdy exudation. The tongue presented a yellowish fur, through which the papillar projected. On the second day of the fever, a rash made its appearance, first on the breast, and rapidly spreading, till it covered the whole body. It was at first punctated, but soon became a universal blush. The fever continued, but rapidly assumed a typhous character. The pulse grew more and more frequent, dark sordes encrusted the teeth, but owing probably, to the inflammation of the fauces extending to the cerebral membranes, the delirium continued of a very violent character. The rash grew dark and livid, the throat became a mass of ulcers, the mouth had a black, mahogany hue, a fetid sanies flowed from the nostrils; dark, gumous blood oozed from fissures in the lips, gangrenous eschars formed on

exposed parts, the skin hung in shreds from his limbs, rapid and stertous breathing, with inability to swallow, finished the gloomy picture. Collape ensued, with cool skin, ghastly features, and death followed, in a week from the attack.

Case 2.—A few days after our first visit, a second child showed symptoms of illness. The usual premonitory features of fever were present, with the addition of vomiting and purging. On examination, the fauces appeared congested, with a trace of exudation, which rapidly grew thicker, as the disease advanced. Within three days a rash appeared, at first of a bright red color, but as typhous symptoms set in, changing to a livid hue. Instead of the marked delirium of the first case, there was stupor. Stertorous breathing, fetid flow from the nosirils, putrid ulcers in the throat, inability to swallow, and death in a week.

In the milder cases, the disease ran its course in the following manner, with, of course, slight variations: The usual preliminaries of fever, such as languor, rigors, pains in the back and limbs, followed by a frequent pulse, hot skin, etc., were invariably present. In addition, vomiting and purging usually occurred, accompanied with soreness of the throat, externally and internally, distinguishing it from cholera morbus, which, in some respects, it closely imitated. An examination of the fauces at this stage, showed congestion, and a slight layer of plastic lymph. Within three days a well-defined rash appeared, the exudation grew thicker, and the swab brought away masses of it in a decayed condition. True ulcers sometimes formed in the arches, discharging a fetid pus. The eyes grew red but not watery; cough sometimes harrassed the patient; the tongue was apt to lose its coating early in the disease, becoming pointed, smooth, deep red and glossy.

In four or five days from its first appearance, the rash began to fade, the false membrane was thrown off, and the soreness diminished; the fever declined and the appetite returned. Unpleasant sequealla were apt to follow. In one instance dropsy carried off the patient soon after apparent recovery.

An anomalous feature occurred in another. His throat had been deeply ulcerated; the veins undoubtedly laid bare, and possibly their coats corroded. A slight cough ruptured a blood-vessel, and in five minutes, not less than a quart of blood flowed from the sufferer's mouth. Luckily, the discharge ceased with syncope, leaving the little patient exhausted but apparently much relieved of a swelling situated below the right parotid gland. The bleeding, however, continued again and again, and the child now lies dropsical and anemic to the last degree.

The following plan of treatment was adopted, which has so far proved successful, except in two cases of extraordinary violence. Believing the disease to be constitutional, the effect of a specific poison of a typhous nature, and the exudation but a symptom, like the eruption, and having a certain course of inception, maturity and decline, regardless of medicine, except to modify or diminish the violence of the symptoms, the following indications seemed to be presented:

1st. To allay vomiting and purging by means calculated to diminish the intestinal irritation.

2d. To moderate the fever by diaphoretics, and thus favor the eruption.

3d. To support the vital powers, from the beginning.

4th. Local applications to counteract the exudation, and prevent the formation of gangrenous ulcers.

Calomel, from its soothing effect, would seem peculiarly fitted to fulfill, in part, the first indication; but from its specific effect on the mucous membrane, and ill results in a "malignant condition of the system," its use was discarded, and the following recipe given, with uniform success.

℞ Opii. grs. ¼,
Sub. nitrate bismuth, grs. 3.

Administered in 3 or 4 minims of tinc. camphoræ.

To fulfill the second and third indications, the following ℞ was used:

Pulvus Dov., grs. 3,
Sul. quinine, gr. ¼.

Local applications, are of the highest value, and nitrate of

silver stands unrivalled, for its antophlogistic and alterative effect, when applied to the mucous membrane. In mild cases, in our hands, it has operated like a charm, and in the desperate, with deep ulcers and dark discoloration, it has ameliorated the symptoms and eased the suffering, though it might not protract life. It may be used in any proportion, from two grs. to the oz. of water, up to the solid stick.

A fifth indication might have been made, to produce an alterative effect on the system, and prevent the tendency to gangrenous ulceration. Chlorate of potash is recommended as modifying the state of the blood, changing it from a dark hue to a bright red. In the more violent forms of the disease, the blood is depraved, as the dark sordes and livid rash proves and whether this is a *cause* or *effect* of the poison, the chlorate may prove useful. Our experience with it is too limited to hazard an opinion.

As a wash to correct the fetor of the ulcers, the chlorate, in the proportion of two to four drachms to a pint of water, is an admirable application, and a small quantity of the same injected into the nostrils will often alleviate the filthy flow.

During the course of the disease the room should be well ventilated, and all discharges carefully removed. An occasional sponging of the patient with tepid water, will conduce much to his comfort.

From our experience of the disease, which extends to some thirty cases, of all grades of violence, from the slightest soreness of the fauces up to the most malignant form, we have arrived at the following conclusion; that most, if not all, the cases occurring in our region, diagnosed and treated by other physicians as diphtheria, or Europeon fever, have been one or the other of the three forms of scarlatina.

When the epidemic first reached us, we were carried away with *diphtheretism*, and pronounced the first cases as attacked with the new diseases; but a very short acquaintance made us *doubt*, and a *longer*, to recognise an old scourge, veiled in uncommonly malignant symptoms. Arguments to support our opinion will occupy a few lines:

1st. The symptoms of inception, maturity, and decline,

accord precisely with those seen in former years in scarlatina.

2d. Descriptions of scarlatina, by the best authors, accord with our cases in every particular.

3d. Persons are exempt from an attack who have previously had scarlatina.

4th. The same sequela follow in its train.

From these, and other arguments, perceptible yet scarcely tangible, we are forced to conclude that there may be a distinct disease called diphtheria; but that the affection we have described is scarlatina, though differently termed by physicians of respectability.

VITALITY OF TOADS.

Towards the year 1850, a workman in the neighborhood of Blois, (France,) struck a mass of silex with his pickaxe, and saw a live toad jump out of the stone. At that period doubts were entertained as to the supposed indefinite vitality of toads, which had been deduced from the above-mentioned fact; and M. Dumeril showed that toads, having cartilaginous ribs, could introduce the whole body where the head would enter. These animals are fond of slipping thus into very small apertures and crevices; and hence the error about their vitality when confined within stone. M. Milne Edwards' father, in order to bring the matter under direct experiment, buried some toads in plaster, and where, from the porosity of the plaster, or the existence of crevices, air could pentrate, the creatures lived several weeks, and even months; one, in fact, lived thus for *eighteen months*, this being the only authentic fact of the kinds. When, however, the plaster had neither porosity nor crevices, the animals were always found dead and dried up.

At a late meeting of the Academy of Sciences of Paris, the members present had an opportunity of breaking up masses of plaster, in which M. Seguin had imprisoned a viper and a toad in 1852. Both animals were found dead, and evidently dried up for a number of years.—*Lancet.*

Miscellaneous.

ARTIFICIAL PRODUCTION OF BONE BY TRANSPLANTATION OF THE PERIOSTIUM.

EXPERIMENTS BY M. OLLIERS.

The experiments were performed on rabbits of various ages. A marked difference was observed in the results, according to the hygienic condition of the animals. In healthy rabbits, operated on in the country, union most frequently commenced at once, and in four or five days the secretion of ossifiable blastema could be felt through the skin. In animals, on the contrary, kept in Paris, in cages or boxes, death frequently followed the operation. After operation, the animals were kept in a cage for two or three days; after which they were allowed more freedom. A good supply of food is necessary, otherwise the work of reparation is arrested. In proof of this, M. Ollier removed the radius and the second metatarsal bone of a rabbit, and placed the animal, for three weeks, in a small unhealthy place, with scanty food. Although the periosteum had been preserved, reparation had scarcely commenced at the end of the time. The operation was then repeated on the opposite side, and the rabbit was placed in an airy situation, and well supplied with food. At the end of six weeks, the bones removed by the second operation were found to be more completely restored than those which had been taken away at the first. The experiments of M. Ollier are divisible into three series:

1. Those in which a slip of periosteum was partially removed, but left more or less adherent to the bone. In these the slip was grafted among the muscles or under the skin, but still received some vessels from the bone.

2. Those in which the periousteum was separated from its final attachment to the bone from three to five days after the operation.

3. Those in which a portion of the periosteum was entirely removed at once, and transplanted to another part.

1. *Transplantation of a Flap of Periosteum, left adhering to the Bone by one end.*—The part operated on was the tibia. An incision having been made along the crest of the bone, the muscles were carefully turned aside so as to denude the periosteum. The part to be detached was then marked out by a scalpel, and was dissected up, leaving one end attached. It was there introduced into a channel made for it under the skin or among the muscles, and the free end was fastened by a suture, to prevent it from becoming twisted. In three or four days, in young healthy rabbits, the piece acquired a cartilaginous consistence, and sometimes became almost as thick as the tibia itself; but whether this was from infiltration from the surrounding tissues, or from the blastema intended for the formation of bone, it soon diminished, and gradually became more distinct and osseous. In almost all the experiments there was a small nuclus of bone developed in the end of the periosteum beyond the suture. If the flap of the periosteum escaped from the suture, it took the form of a spur, which projected more or less under the skin. In old rabbits the result was different; the wounds secreted a serous pus, and there was at the end of a month or six weeks, little or no trace of ossification. This shows that as age advances, the osteogenetic power is diminished, though not entirely abolished.

To meet the objection that periosteum merely conveyed the blastema from the bone, M. Ollier calls attention to the formation of an osseous nuclus beyond the point where the periosteum was strangled by the suture. He also, having detached a flap of periosteum, twisted it several times on itself, and fastened the end by suture as in the other experiments; the result was the formation, not of a perfect ring of bone, but of a circle formed of several separate movable osseous deposits, like a string of beads.

2. *Excision of the Pedicle of Communication three or four days after Operrtion.*—In these experiments, the ossific process continued; in one instance, the newly formed bone became reunited to the tibia, but, in another, where a large portion of the attached end was removed, the new bone was found to be joined to the tibia only by some fibrous deposit.

3. *Complete Removal of a Portion of Periosteum, and Transplantation into neighboriny or distant parts.*—M. Ollier dissected a piece of periosteum from the tibia of a rabbit

eleven months old, leaving it attached by a few filaments of the extensor muscle of the great toe. Six weeks afterwards, the piece had ossified, and was entirely independent of and movable on the tibia. In other experiments, he transplanted portions of periosteum from the tibia under the skin of the groin, the back, and the popliteal space; in these cases, also, bone was formed. The new bone was not equal in size to the removed portion of periosteum, from the shrinking which the latter had undergone.

The osteogenic property does not reside alike in the periosteum of all bones. M. Ollier dissected up a portion of the pericraneum of a rabbit three months old, leaving it attached at one end, and fastened it by suture under the skin, so that the deep surface was turned outwards. At the end of six weeks, there was but very slight trace of ossification, except along the edge of the slip, where it still adhered to the bone. This result is in conformity with the demonstration of Heine, that the pericraneum is not of itself sufficient for the reparation of bone.

At a meeting of the Societe de Biologie, in July, 1859, M. Ollier exhibited some specimens bearing on the question whether the dura mater performs the functions of a periosteal membrane. He transplanted portions of the dura mater of young rabbits under the skin in various parts of other animals of the same kind; at the end of five or six weeks, portions of bone were found to be formed. The osteogenetic property of the dura mater he found to diminish with the age of the animal; and this, he thinks, explains why bone is so often not reproduced after the operation of trephining. Bone was not formed from the parts of the dura mater not in direct contact with the skull—the falx cerebri, for instance; pathological ossification, however, takes place very frequently in this situation. Ossification was more abundant in portions taken from the base than from the concavity of the skull.

M. Berruti has performed some experiments which confirm those of M. Ollier. In dogs, he has raised flaps of periosteum, leaving them attached at one end, and has laid them with their inner surface in contact with a muscle; a plate has been formed, having all the histological characters of bone. In another instance he removed a flap of periosteum from the radius of a young dog, and fixed it to the muscle of one of the thighs of the same animal. The wound in the skin united without suppuration. On examination, after some time, the muscle was found to have a bony plate deposited on it. In another similar experiment the transformation into bone

was observed to be in progress. M. Berruti did not find any traces of cartilage in the tissue undergoing the osseous transformation.

External Characters and Structure of the Bone formed by Transplantation of Periosteum.—The heterotoptic bone presents all the characters of normal bone. [M. Ollier uses the term *heterotopique*, to denote development in abnormal or extraordinary situations. We ratain it in an English form, as being convenient and expressive.] Externally it is covered by periosteum; internally it contains medullary spaces, which unite in a tolerably large canal. At the periphery there is a layer of compact tissue. When the periosteum has been allowed to remain partly connected, the heterotopic bone contains a medullary canal perfectly distinct from that of the original bone. The canal is formed gradually, by thinning of the osseous tissue, the development of vacuoles or spaces, and the removal of the trabeculæ which separate them. Bones fromed from transplanted periosteum are generally smaller than the piece of membrane, probably because of the necessity for the formation of a new vascular oganization, and from the contraction of the piece of periosteum; but they also present a tendency to the formation of a medullary canal in their interior.

On examining thin slices of heterotopic bones under the microscope, they are found to contain osseous corpuscles, arranged in the compact substance in distinct layers round vascular or Haversian canals, not, however, so regularly as in normal bone; but the specimens examined by M. Ollier were it must be noticed, not more than eight or ten weeks old. The Haversarian canals are generally parallel to the axis of the bone. The medullary canal contains (*a*) free nuclei, and small cells with a distinct round nuclus; (*b*) patches of numerous nuclei, generally infiltrated with fatty granulations, and containing several nuclei analogous to the free nuclei; (*c*) fat; (*d*) fibro-plastic elements, and fibrils of connective tissues; (*e*) blood-vessels enter through one or more nutritive foramina.

The heterotopic bone frequently presents a longitudinal groove on the whole length of one of its surfaces. It is always observed on the side where the edges have been turned on themselves, towards the internal surface of the periostium, and indicates an inequality in the secretion of the blastema. The furrow is generally noticed, also, on bones reproduced after subperiosteal resection; it here corresponds to the incision in the membrane, through which the bone has been removed.

At their commencement, at least, the heterotopic bone is more or less adherent to the neighboring parts; the external surface of the periosteum is less distinct from the surrounding cellular tissue than the periosteum of normal bone. When developed round the leg, the bone adheres to the sheaths of the muscles, so as to impede the action of these organs. At first, the tendons also are more or less completely fixed to the bone; but gradually motion is allowed, by means of a loose cellular tissue, which would, perhaps, at last form a serous bursa.

Mode of Development of Heterotoptic Bones.—From the first there is an effusion of lymph, at first serous, afterwards more consistent, infiltrating the slip of periosteum and the adjacent tissues. The periosteum then becomes turgescent, and its capillaries are filled with blood; on its internal face there is produced an exudation, which at first sight resembles that furnished by the external surface and the neghboring tissues, but which is soon distinguishable by its greater density; it goes on increasing, while the other becomes absorbed. In four or five days, or thereabouts, there is an accumulation of transparent or slightly yellowish-gray firm matter under the periosteum, or rather in it (for the edges are glued together so as to form a complete sheath.) This blastema is chondroid rather than cartilaginous. At about the seventh or eighth day, the deposition of earthy matter commences. It is not necessarily preceded by true cartilage; but sometimes there is a hard, elastic substance, having the external characters of this tissue. Ossification commences at the center, and advances rapidly to the periphery; and, when the whole mass is permeated, the process goes on while the periosteum deposits new layers of blastema.

Although the deposit of earthy matter is general, the bone remains flexible for some time, and might be considered as still cartilaginous until laid bare and examined, when it is found to be friable and finely granular. It gradually acquires the appearance and consistence of normal bone. The process here described indicates that the production of heterotopic bone is not necessarily preceded by the formation of cartilage; and this might be expected, inasmuch as cartilage is not normally formed under the periosteum.

By scraping the internal face of the periosteum at the commencement, a layer of blastema is detached. On placing this under the microscope, it is found to consist of a large number of nuclei, and of cells analogous to those which are found in the embryonic tissues. The free nuclei, which form the pre-

dominant element, lie in the midst of a more or less granular amorphous substance. Here and there some fusiform cells are found, as well as very fine fibres—the latter being more apparent if some force has been used in scraping the periosteum. There are also cells, some with one nucleus, others larger, with several nuclei. These large cells are often very regular in outline. The younger the animal, the more abundant is the blastema. In this blastema the process of ossification goes on, in the same manner as has been described, with regard to the formation of normal bone beneath the periosteum, by Virchow, Sharpey, Kolliker, Robin, and Rouget.

When cartilage is met with, it is rare to find cavities containing many cells; and there is nowhere the regular arrangement observed in ossific cartilage.

Do the heterotopic bones continue to increase in size? M. Ollier observes that, to answer this question, a period of several years would be required; but, in the meantime, reasoning from analogy, it is fair to infer that they would at least increase in thickness, like normal bones, since the periosteum exists in both cases.

Nature of process which takes place on the Internal Surface of Periosteum—Immediate Origin of the New Bone.—If, after detaching a portion of the periosteum, one half of it is gently scraped on the internal surface, the osseous tissue will be formed from the part only which has not been so treated. M. Ollier dissected up a flap of periosteum, leaving it attached at one end, and scraped the part nearest its attachment to the bone. At the end of ten days this portion was merely fibrous, although traversed by numerous vessels; the part which had not been scraped presented a partly ossified deposit. Hence he concludes that neither vessels nor the external part of the periosteum are sufficient for the production of bone. The production of bone may also be prevented by touching the internal surface of the periosteum with a caustic.

In order to determine more closely the action of the sub-periosteal blastema, M. Ollier proceeded to transplant it alone to distant parts. Having gently scraped some from a flap of periosteum, he insterted it under the skin of the axilla of one animal. In a week there were found small masses of a yellowish substance, having the external appearance of fat, but which, under the microscope, were found to contain certain nuclei of sub-periosteal blastema, mixed with fragments of a granular fibroid substance, in which the presence of carbonate of lime was detected by hydrochloric acid. These masses,

when treated with acid, presented elongated nuclei with more or less irregular outline.

M. Ollier makes some comments on the doctrines advanced a century ago by Duhamel, with reference to the function of the periosteum in the formation of bone. At first Duhamel regarded the bone as increased by the ossification of layers of the periosteum; but he subsequently modified this view; and in 1757 he thus expressed the analogy between the formation of wood and that of bone. "Wood increases by the addition of fine layers deposited between the wood and the bark. Bones increase in size by the formation of layers between the periosteum and the bone." He could not, M. Ollier observes, be more explicit at a period when the knowledge of the production of tissues was very imperfect.

Transplantation of Periosteum after Death.—In his experiments, M. Ollier took care to operate rapidly, lest the properties of the periosteum should be destroyed by the least amount of cooling and dessication. He finds, however, that, though rapidity in operation is most important to the production of regular and abundant ossification, the osteogenetic property is not at once lost. In January, 1859, he transplanted a piece of periosteum, which had lain on his table seven or eight minutes, and had been washed with cold water; it became adherent, and granules of bone were formed in it. In other cases he has succeeded with pieces which had been removed from fifteen to twenty minutes; and, in periosteum removed from animals even as late as an hour and a half after death, the osteogenetic property was not entirely lost. He believes, moreover, that this limit may be carried still further under favorable conditions of temperature, etc., and according to the mode of death.

Transplantation of the Pierosteum of an Animal to another of a Different Species.—In the experiments already referred to, the periosteum was transplanted to animals of the same species; but M. Ollier has further tried the effects of introducing portions of periosteum under the skin of animals of different species from those from which the membrane was taken. He has thus experimented on the dog, cat, rabbit, guinea-pig, calf, goat, sheep, and hen, with the following general results:

1. The flap transplanted is entirely absorbed in a longer or shorter time. At first the wound heals; and for a short time a small hard nucleus is felt, which, however, gradually diminishes and disappears, so that no trace can be found on *post mortem* examination.

2. The flap sloughs, and is thrown off by suppuration; this result was most frequently observed in rabbits on which periosteum from the dog had been engrafted.

3. The flap becomes encysted, without suppuration. At first the experiment appears to have succeeded; the flap is retained in its place by plastic lymph; but this lymph soon becomes organized into a cyst, and the periosteum undergoes fatty change. Sometimes the cyst contains thickened pus. This latter result was observed chiefly in rabbits; the former in experiments with the combs of cocks.

4. The periosteum becomes adherent to the neighboring tissues; vessels are formed in it, and it continues to live, as a fibrous membrane; but no bone is produced. This was observed several times in cases where periosteum was transplanted from the dog to the rabbit, and from the rabbit to the hen.

5. The periosteum not only forms a fibro-vascular adhesion to the neighboring tissues, but produces osseous tissue. This result, however, is very rare, even in animals of closely allied species.

Modifications which Bone Undergoes when Denuded—Regeneration of the Periosteum.—It has long been known that a bone deprived of periosteum is not of necessity condemned to necrosis. Tenon proved this by experiment; and Macdonald, 1799, showed that periosteum was reproduced after being destroyed. At a later period this opinion has been supported by Cruveilher and Flourens. In none of his experiments has M. Ollier observed a sequestrum at the part where the bone has been denuded. Immediate union takes place, or the wound suppurates.

In the first case the following phenomena are observed: In a short time after the bone is denuded it becomes covered by thin, soft, transparent layer, which soon becomes distinct from the effused plastic lymph. Towards the eighth day it resembles a coat of varnish spread over the bone. It unites with the edges of the old periosteum. At first it is without vessels, but three or four days later, these appear at the edges, being furnished by the periosteum; and in the center, where they are supplied by the bone. The old periosteum is puffed up and thickened all around; and small tufts of vessels are seen advancing from the circumference to the center of the denuded portion, so as to cover the varnish-like layer of blastema. In the meantime cellular and fibrous elements are developed, and form a fibrous membrane analogous to periosteum.

To ascertain whether the new membrane thus formed is really periosteum, M. Ollier, in two instances, removed and

transplanted it; but the experiment failed, probably from being at too early a stage, (three weeks.) He subsequently performed other experiments, taking care to allow six or seven weeks for the formation of the new periosteum. In an instance related in the *Journal de la Physiologie* for July, 1859, he removed the newly-formed periosteum forty-three days after the first operation; it was thicker than the normal membrane, and was easily isolated. He then inserted it among the muscles of the leg; and, at the end of twelve days, bone was found to be formed. Periosteum was again commencing to be formed in the bone which had been thus twice denuded.

M. Ollier differs from the opinion of Flourens, that the periosteum may be removed and reproduced indefinitely. He allows that periosteum may be removed and reproduced again and again; but this, he says, can occur only when the bone which it covered has not also been taken away.

Bone, when denuded, becomes slightly roughened while the new periosteum is being formed; it loses its whiteness, and becomes reddish, and presents punctiform vascularity on its surface. When, however, the new periosteum is formed, the bone continues to grow regularly; and in rabbits, at the end of two months it has regained its normal appearance.

When the wound is the seat of prolonged suppuration, the bone remains denuded for several days; then fleshy granulations appear on its surface, and the superficial layer is gradually absorbed. When cicatrization is perfect, the surface of the bone is unequal; round the denuded part, at the limits of the old periosteum, are projections, sometimes large; while more or less deep depressions are seen in the part which has been the seat of exfoliation. These inequalities tend to disappear gradually. While this work is going on, the bone is covered with a fibrous layer; but this new membrane is always more or less confounded with the cicatrix outside it, so that it is not certain whether it is a true periosteum.—*British Medical Journal.*

A New Adulteration of Milk.—The *Lancet* says that a London milk dealer has been detected in coloring milk with yellow ochre. The object was to avoid the blue appearance produced by the dilution to which it was subjected, and to give a rich, creamy appearance.

EXPERIMENTAL PATHOLOGY.

BY M. CLAUDE BERNARD.

In examining the various tissues which enter into the composition of the living frame, it is easily ascertained that peculiar and distinct properties are separately enjoyed by each of them; and that, in this manner, they are enabled to fulfill the various functions which devolve upon them. At the same time we discover that certain general systems exist, which, by their distribution are brought into constant communication with all the various elementary tissues of the body; you have already named the vascular and nervous systems. The blood, as you are well aware, is brought through the capillaries to every part of the body, and its presence being indispensable to the physiological existence of all living tissues, they rapidly perish when accidentally deprived of this all important and vivifying fluid. The blood, therefore, must be looked upon as the medium in which all our tissues have their being; it brings them in contact with an immense number of substances, derived from various sources, some of them drawn from the atmosphere through the process of respiration, others again introduced into the economy through various absorbant surfaces, and all of them equally necessary to the continuance of the physiological conditions of life.

Such, however, are not the only bodies which the circulating fluid brings into contact with the primitive elements of which our organs are composed; the blood is, at the same time, the vehicle through which medicinal agents, intended to modify their properties, are conveyed into living tissues, and penetrate into their substance. We must, in consequence, consider medicines as physiological agents of an unusual nature; introduced into the same channel as the bodies with which it is natually supplied, they reveal their presence exactly in the same manner, viz: by giving birth to a series of phenomena peculiar to each substance, and widely different from those which exist in the physiological state. But another question now presents itself; *how* are these foreign substances enabled to act upon our tissues? Not through their physico-chemical properties, as has been sufficiently proved in our last lecture; a *physiological* property must, therefore, be had recourse to, as in the case of all the powers which support life. When oxygen, for instance, is brought into contact with elementary, nervous, or muscular fibres, it quickens their activity, and keeps alive all their properties

within them; and, when deprived of so powerful a stimulus, both nervous and muscular fibres quickly die. Similar actions are, no doubt, in their intimate essence, of a physical or chemical nature; but in the present state of our knowledge, the observer can only point to a physiological agency.

Histological elements, as we have already shown, are, in every case, endowed with special properties; and the wider is the difference which separates one tissue from another, the higher is the animal's rank in the scale; in the nobler species peculiar organs are adapted to each individual function; and in no other animal is their number so great as in man. We are, therefore, justified in supposing that the primitive muscular fibre, for instance, is widely different in every respect, from the nervous filament and the glandular cell; and, in consequnce, that agents entirely powerless as regards all other tissues, may be found to exercise over the muscles an almost unbounded influence.

Among the innumerable agents which possess the power of destroying life, there exist an immense number which the medical philosopher cannot, by any means, consider as diseases; no one, for instance, would think for a moment of giving that name to the bullet which slays the soldier in the battle, or the thunderbolt which strikes the plowman dead in the field; the same, of course, might be said of all the causes of violent death; now, reasoning by analogy, might we not place a large number of so-called diseases in the same class? A tumor which, by its situation, compresses the windpipe, and gradually increasing in size, superinduces suffocation at last; a stricture of the œsophagus, which prevents the passage of food into the stomach, and ultimately starves the patient to death; are not these mechanical obstructions, which, acting as impediments to some of the more important functions of life, gradually bring on death, by a slow, but inevitable process? It would, of course, be superfluous to adduce other instances to the same purpose, but we are supported by the authority of Professors Trosseau and Pidoux, in assimilating to such cases those valvular affections of the heart, which by constantly opposing the natural course of the blood, sooner or later produce a complete stasis of the circulation.

The word disease, must, therefore, be understood to signify disorders of a more extensive nature, the existence of which is revealed by phenomena of an entirely general character. Such, however, are frequently the results of local affections; the fact is established by daily experience; and we need only allude to the well-known effects of wounds and sores, in order

to convince you that local causes frequently become the starting point of general diseases. The results of our physiological experiments are, in this respect, perfectly in accordance with clinical observation; let, for instance, a poison be introduced under an animal's skin; its action, during the first few moments is entirely confined to a single point, but within a given space of time, its effects are felt throughout the living frame; in what manner can similar facts be best explained? Such is the problem, the solution of which we are about to seek; the difficulty, as you perceive, has been distinctly stated.

That poisonous substances cannot act upon the tissues which compose the body, without having previously been absorbed, is perfectly clear; but when, under their influence, general phenomena are produced, the vessels or nerves must evidently have been called into play; the vascular and nervous systems alone, as you are well aware, are distributed throughout the body in one unbroken chain; and physiology, in this case, abundantly confirms the inferences drawn from our knowledge of anatomy. The well-known experiments of Magendie have shown that injecting into the arteries of a limb any given toxic substance, its ordinary effects may be indefinitely suspended, by tying the veins which connect the diseased part with the remainder of the economy. The animal's life might, in this manner, be almost indefinitely prolonged; but as soon as the vessels are untied, the poison flows into the torrent of circulation, and gives rise, as usual, to a series of phenomena which end in death. The fact is well known to the inhabitants of tropical countries, who, when bitten by venomous serpents, immediately apply a close ligature over the limb, in order to prevent the passage of the venom into the blood, until proper remedies have been applied.

But the vessels which convey into the depth of our tissues both poisonous substances and the ordinary elements of nutrition, belong, as you are perfectly aware, to the arterial system; on the other hand, all foreign bodies which pass into the blood through the process of absorption, are conveyed into the arterial circulation by the veins; we thus thus discover that when general symptoms have been produced in this manner, the two great divisions of the vascular system have both been called into play. It sometimes occurs, however, that the noxious principle which circulates in the veins is eliminated during its passage; such, for instance, is the case with sulphuretted hydrogen, one of the most dangerous substances we are acquainted with; when injected into the veins,

it escapes from the lungs, and is, in this manner, prevented from passing into the arterial current; and the animal, in consequence, does not experience the slightest injury from the operation, the poison having been expelled before it could reach the tissues, which its contact would have disorganized. The venous, or absorbent system, is, therefore, that part of the vascular network which contributes to the production of general phenomena, when deleterious agents are introduced into the economy; nor do the arteries begin to play their part before the veins have accomplished theirs. But, as we have just stated, the poison is sometimes expelled before reaching the left side of the heart; and this elimination takes place on various points; but the pulmonary apparatus is the ordinary seat of the process. For this very reason the inner coat of the lungs is, perhaps, the most powerful of all absorbent surfaces; and poisons, when directly brought to bear upon it, produce a more instaneous effect than when deposited upon any other point; introduced, as it were, into the very centre of the arterial system, they pass at once into the circulation without any possibility of being expelled. Thus, sulphuretted hydrogen when introduced into the lungs, extinguishes life within a few seconds; while the same gas exists, to a considerable amount, in various parts of the intestinal tube, and even circulates in the veins, without producing the slightest inconvenience. It must, of course, be understood that the presence of poisons within the animal economy is perfectly inocuous as long as they are not collected together in sufficiently large quantities at a given moment. Small doses of the most dangerous substances may be successively poured into the vessels, at distant intervals, with perfect impunity. In estimating the noxious power of toxic bodies, the amount actually contained within the blood must alone be taken into consideration.—*Medical Times and Gazette.*

A NEW METHOD OF DISSECTION.

A great desideratum in anatomy is, to obtain an exact idea of the real position of the internal organs. This, however, is far from being the case in dissections by the common method; since every section made on the body, rendered flabby and unelastic by death, produces a corresponding deformation; the

soft part contract, and nothing but an approximative idea can be formed of the relative position of the exposed parts before the operation. in order to obviate this inconvenience, Dr. Pirogoff, of Russia, has had the ingenious idea of subjecting the body, before dissection, to a cold of eight degrees centrigrade, (16 Fahr.,) for the space of three days. By this means the body acquires a hardness like that of wood, its organs retaining, at the same time, their relative sizes, since the moisture they contain increases by congealation, and thus counteracts the contraction which the solids would otherwise undergo.

The body in this state is subjected to the circular saw, which will cut off slices of the thickness of a frank piece with the greatest nicety, either longitudinally, transversely, or along the axis of the member. By this means Dr. Pirogoff has been enabled to publish an anatomical atlas of every part of the human body, seen under three different aspects. In order to copy out a section obtained in the manner described, Dr. Pirogoff passes lightly over the frozen surface with a warm sponge; the surface is thus thawed for an instant, but a transparent film of ice is immediately afterwards formed over it. A pane of glass with lines drawn upon it crossing each other at right angles, so as to form so many squares, is then laid on the icy film, and the surface copied out upon paper also divided into squares like the glass.

By this means the greatest precision is attained. The principle of refrigeration has been carried still further by the ingenious inventor, who by exposing a body to a cold of 18 degrees centigrade, (4 Fahr.,) reduces it to the consistency of stone, and then operates upon it like a sculptor, with a chisel and mallet, laying all the viscera open without in the least degree injuring them. It is thus he has been enabled to ascertain that the cavities of the mouth, nose, the typanum of the ear, and those of the respiratory organs, are the only ones which enclose air, and that everywhere else the surface of all parts of the body adhere immediately to the membranes enveloping the organs they contain; so that however apparently dissimiliar their surface of contact may be, there is still no empty space between them.

☞ The friends of the late Dr. Isaacs will be gratified to learn that a bust of this lamented physician is in preparation by Mr. Thomas Cooper, of this city. The mould was taken after death, which gives a somewhat cadaveric appearance to the features, but otherwise they are strikingly accurate.

INTRODUCTION OF THE TEA PLANT INTO THE UNITED STATES.

A few years ago the United States Government was led to take measures for the introduction of the tea plant into the confederation, with a view to establishing, if possible, the preparation of tea in some of the States. The success that had attended Mr. Fortune's operation for the East India Company, having induced them to consult that gentleman, it was finally arranged that he should again proceed to the Celestial Empire, for the purpose of obtaining as abundant a supply of plants for the west as he had secured for the east. His mission has been attended with the most complete success. A minute of the United States Patent Office now before us, states that he was dispatched in March, 1858, that he had obtained seeds enough to plant one hundred acres, a large portion of which had arrived by the 20th of June, 1859, and were flourishing in a propagating house, especially constructed at Washington for their reception. Applications for plants were even then made in such numbers that it had become necessary to refer to Congress for instructions as to their disposal.

Mr. Fortune returned to England some time ago, and has favored us with the following interesting report upon the final result of the expedition:

"It will be seen by the accompanying papers that the results of my expedition to China, for the Government of the United States, have been very satisfactory. In little more than one year about fifty thousand tea plants, and many other vegetable productions useful in the arts, or of an ornamental character,* have been introduced to America from the tea countries of China.

"This success was mainly owing to experience acquired during former visits to these countries. Arriving in China in the month of May, I spent the first few months in visiting numerous tea farms in different parts of the country, where I made arrangements with the natives for large supplies of seeds as soon as they ripened in the autumn. In October and November I repeated my visit to the same districts, and everywhere found supplies of seeds awaiting me. In former

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*For example: the Camphor and Tallow trees, Chusan Palm, green dye plant, (Rhamnus,) manure plants, (Trifolium and Coronilla,) Wax-insect tree, (Fraxinus Chinensis,) Yang-mae, (Myrica sp.,) southern fruits, such as the Leechee, Longan, Wampee, &c., &c.

transactions with these tea growers, I had always treated them kindly and liberally, and I now found the advantage that resulted from such treatment. Seeds had been saved for me in all directions; I had only to pick them up and proceed onwards, and was thus enabled to get through a large amount of work in a short space of time. In December I reached the seaport of Shanghae, with the whole of my collections in excellent condition.

"Tea seeds will not retain their vitality long if kept out of the soil. In order to guard against all risk, a large number of Ward's cases had been previously prepared and filled with earth, and to these the seeds were immediately transferred. The first shipment was made in December, a few days after my arrival in Shanghae. Knowing that the vessels would probably arrive in America in the middle or end of March, I thought it likely the seeds would remain in the earth without vegetating during the voyage. Instead, therefore, of sowing the seeds near the surface in the usual manner, I mixed up large quantities with soil, and filled the case up with the mixture of earth and seeds. By this simple plan many thousands of seeds were carried to their destination, and when they arrived they were as sound as if they had been all winter on a Chinese seed-bed. Of course it was necessary to unpack them immediately on arrival, and sow them thinly in other quarters. In the other cases, which were shipped later, this mode of packing would not have been safe. The seeds were therefore sown thickly and covered with earth in the usual manner, and in this state might vegetate on the voyage without any risk whatever. In the one case the object was to get the seeds quickly to their destination without vegetating, for had this taken place, the experiment would have been a failure; in the other they were placed in circumstances favorable for vegetation, and the only change likely to occur would be this, that in China they were only seeds, while towards the end of the voyage or at its termination, they would have changed into healthy young plants.

"The watering, closing the cases, shipping, and last, but not least, securing the good-will of the captain and officers, were all important operations."

Not only has the tea plant been thus introduced to the Eastern States, but it has found its way also to the Western; and our friends on both the Atlantic and Pacific sides are, with their usual energy, setting about growing it.

But there still remains the question whether they can turn it to profitable account. That the climate will be found to

suit in some of the vast regions of the West, there can be no reasonable doubt. But merely growing tea plants will not make commercial tea. The difficulty lies in the preparation of it, an operation which, as conducted in China, demands an enormous quantity of labor, the article of which, beyond all others, the United States has the least to spare. But is it really necessary to prepare tea Chinese fashion? to chop it up into little balls and twist it into all sorts of queer shapes with all sorts of names, in order to give it its dietetical value? Surely not. We have ourselves found out that the painted article called green tea is not very wholesome, and by no means the better for the paint; and we quite anticipate that our United States friends will have even already projected some sort of machine that will produce good marketable tea without the assistance of human hands. This, indeed, we know, is the opinion of Mr. Fortune himself.—*London Phar. Jour., from Gardeners Chronicle.*

☞ A death by chloroform is this week reported in our columns from Bellevue Hospital. The anæsthetic was administered by a junior member of the house staff, with as much care as is usual in hospital practice, and commendable exertions were made to resuscitate the patient. The post mortem examination revealed fatty degeneration of the heart, an apoplectic condition of both lungs, and slight evidences of former inflammation of the meninges of the brain. This is the second case of death by chloroform which has occurred in that hospital within a twelvemonth. Considering the daily use of anæsthetics in this large hospital, and the immense aggregate of cases of its employment in a year, and above all the careless manner in which it is often administered, this exemption from fatal consequences is truly remarkable. We learn that this case has raised the question in the Medical Board of the propriety of using chloroform in the practice of that hospital. We believe that this agent was long since excluded from the New York, Pennsylvania, and Massachusetts General Hospitals.—*American Medical Journal.*

Editorial.

BOOK AND PAMPHLET NOTICES.

MEMORANDA MEDICA, or NOTE BOOK OF MEDICAL PRINCIPLES, &c. By HENRY HARTSHORNE, M. D., &c. J. B. Lippincott, & Co., Philadelphia: 1860.

We hail the appearance of this little volume with peculiar pleasure. It is one of the few books which approach the Baconian standard, setting forth clearly and yet with aphoristic brevity, that which is believed to be the *really known* and worthy of trust, without unnecessary comment or rhetorical display.

Years ago we uttered our earnest protest against the ponderous treatises which were, from time to time, being inflicted upon the professional public, without warrant or excuse, save the overweening pride of authorship, and weak ambition to figure upon the title page of a massive work. We begin again to believe that the earth *does* move after all. The work before us evidences a clear head, sound scholarship and large exercise of thought; nevertheless it is scarcely more bulky than the Westminster Catechism or Salem Platform. *O si sic omnia!* Herein is truth reduced to elemental propositions, readily capable of being understood, of being attacked or of being defended, without bush fighting or guerilla warfare.

The general arrangement includes, in order: Etiology, Semeiology, General Pathology, Nosology, and General Therapeutics; and to the whole is superadded what will prove of great convenience to students, a glossary. Among the special points in this treatise, we beg leave to call attention to the following. It will be recollected that Prof. Bennett asserts that inflammation is "a self-limited process which cannot be

cut short or interfered with to advantage." To which Dr. Hartshorne curtly replies:

"If there be anything positive in medical experience, I believe the contrary to have been established."

Again, Dr. H. observes:

"I do not know of a single case of any kind of disease, in which the indication or object of medical treatment is to reduce the strength, or lower the vital power of the patient's system."

All of which we steadfastly believe. Again:

"It must be remembered that, at the present time, no one thinks of bleeding *for fever, as such.*"

"Starving patients is not now thought of, unless they are fearfully plethoric. In the later stages of inflammatory disorders; in fact, *as soon as the exudation has all been thrown out*, generous diet is usually required. Some patients will never bear a purely vegetable diet under any circumstances; and *some* cases, even of inflammation, require stimulation from the first."

Another:

"Experience fully warrants the inference that mercury is a general stimulant to all those functions of organic life which are performed under innervation from the ganglia of the (so called) sympathetic system. It is probable that its action is directly *upon* those ganglia. Thus mercury tends to diffuse or equalize secretion, and the circulation of the blood, aiding, in this way, to break up local congestions and inflammations."

"The most powerful of anti-phlogistic (arterial sedative) medicine is tartar emetic."

Once more:

"Opium, always the most reliable and potent of anodyne medicines, has, in latter times, assumed a more important position as a *remedy* in the treatment of inflammatory diseases."

Which, also, notwithstanding Prof. Paine, of goodly bloodletting memory, we fervently hold to be true.

The "Concluding Maxims" of this invaluable little work, we cannot resist the temptation of reproducing in full:

"1. All pathology is but the physiology of organic perturbations.

"2. Never interfere actively in disease without a distinct object.

3. "Act only upon scientific reasons, or well defined experience.

"4. Treat the cause of disease, whenever it is possible.

"5. Watch always, and treat when requisite, the condition of the patient.

"6. Avoid, especially, routine treatment according to the *names* of diseases.

"7. Use no violence with self-limited diseases."

"I believe that a sound 'theory of medicine' may be expressed in a single paragraph, thus:

"Physiological opimism is the aggregate tendency of all the forces of the living organism, under the controlling influence of the vital force. But the best possible result in a given case may, from its conditions and circumstances, fall far short of health. Medicine, then, is to favor and supply those conditions which, under natural laws, allow or promote the best result.

"In aiming to fulfill this duty, the art of healing must always depend, in part, upon empirical observation, (which every branch of knowledge requires,) and, in part, upon inductive science. But in both alike, the physician is, or should be, *naturæ minister et interpres.*" A.

THE PRINCIPLES AND PRACTICE OF SURGERY; by ROBERT DRUITT, Licentiate of the Royal College of Surgeons, etc. From the Eighth Enlarged and Improved London Edition. Philadelphia: Lea and Blanchard, pp. 695, 1860. From Wm. B. Keene, Chicago.

On the appearance of the first American edition of Mr. Druitt's work, we expressed the opinion that it was an improvement on all the text books then in use. Since that

time the works of Ereichsen, Fergusson, Skey, South's edition of Chelius, and others, have been so widely circulated that at the present time that opinion would require to be modified. Still, with the revision of this edition by the author, it may be said to present as fairly as could well be done in a limited space, an outline of surgical science in its present state, and will prove, as heretofore, a useful work in the hands of students and junior practitioners. Its success in England, as indicated by the number of editions it has gone through, is remarkable.

This edition has the notes of two American editors, Messrs. Flint and Sargent, so mixed up with the original, that it difficult to distinguish, without much care, what really belongs to the author himself. It is probable that the work would be quite as acceptable to the profession of this country, without the addition of the peculiar views of these gentlemen.

On the Theory and Practice of Midwifery. By Fleetwood Churchill, M. D., M. R. I. A.; with Additions by D. Francis Condel, M. D. A new American, from the Fourth Corrected and Enlarged English Edition. For sale by W. B. Keen, 141 Lake street.

We recognize in this book, the countenance of an old and familiar friend, in new attire, amplified and rendered more perfect by the addition of many valuable plates, by way of illustration. The rapidity with which the successive editions of this work have been exhausted, indicates the estimation in which it is held by the profession, and is a clear proof that its excellencies are fully appreciated. It is a very complete compendium of whatever has been demonstrated to be valuable in the art and science of midwifery, down to the present day. Two entirely new chapters have been appended to this edition; one treating on "Obstetric Morality," and the other on the "Qualifications and Duties of Monthly Nurses," the latter being full of instruction to the nurse, and its perusal

cannot but be suggestive of useful ideas to the physician. There is no better text-book for students; or work of reference and study for the practicing physician than this. It should adorn and enrich every medical library.

A Treatise on Fever; its Causes, Phenomena, Treatment, &c., &c. By Rezin Thompson, M. D., Nashville, Tenn., 1860.

This is a new and considerably improved edition of a work which has attracted attention. particularly in our Southern and Southwestern States. Some fifty pages of new matter have been added to the first edition. However we might feel disposed to take exceptions to either the matter or manner of this little book, we are dissuaded from comment, to which we should otherwise be tempted, by the evidences of sincere and earnest belief, on the part of the author, that what he asserts is incontrovertibly true, and of the highest importance to be known. Such a conviction ever ought to be met, unless it results in the most patent absurdity, by generous salutation and impartial examination.

Dr. Thompson is convinced that his doctrines and treatment of fever are not surpassed in importance by any discoveries which have been made in the science of medicine. He estimates that the adoption of "A plan which would stop this outlet to human existence (febrile diseases) would save in one year, in these United States alone, at least half a million lives; a number greater than that which composed the entire belligerent forces in the Crimea. But a plan which would save half of this amount would in all fairness entitle the discoverer to be classed among the prominent benefactors of mankind. And yet this—yes, more than this—I profess to have discovered and propose to explain."

Some months ago we ventured to question the absolute certainty and reliability of sundry propositions on the fever question, by another prominent professional gentleman in Nash-

ville, Tennessee, and although our observations were couched in the most friendly and good-natured terms, we confess that our ears have not yet recovered from the thwacking and hammering and multitudinous noises which were inflicted upon them by the indignant professor.

Our acute sensibilities will not permit us to venture the faintest shadow of a jest upon the idea that this author resides in the same city with our indignant friend above alluded to, but give a paragraph from the book before us, which explains why the coincidence is not remarkable:

"I am aware that we are all slow to acknowledge anything to be great which is the work of a cotemporary, and especially of a fellow-citizen and an equal; it requires the charm of distance, of time or space, to throw around any great discovery that prestige which commends it to our acceptance. But, of all ages of the world, this is the time; and of all places, this is the locality, in which we might most reasonably look for something great to originate; for I shall not deal much in the imaginary when I say that this is the most enlightened age of the world's history, and these United States contain more intelligence than any other country which the sun looks upon; and Tennessee is the centre State of this great Republic, and Nashville is the *sensorium commune* of Tennessee.

Dr. T. founds his system of practice upon conclusions derived from observing the peculiarities of the capillary circulations, as influenced by poisons and the nervous system. The great moving cause of the sanguineous circuit, he believes to reside in the capillaries, adopting, in the main, the views of Prof. Draper. To this, however, he superadds a *vis a fronte* which causes the return of the blood from the veins to the heart, by a *quasi* suction power, not exerted, perhaps, so much through active dilatation of the auricles as of the ventricles, and this again provoked by the capillary force of the pulmonary circulation. Mrs. Willard is complimented in this connection, which certainly is chivalrous—worthy of a Tennessean.

Disease, he concludes, "consists in debility in one or more organs, and that there can be no disease without debility, and this debility must be, of necessity, partial. A general feebleness does no more constitute disease than general power." He proceeds to illustrate by reference to the febrile results of traumatic

lesion, exposure to cold, puerperal fever, and various other diseases, the effects of medicine, etc. Summing up what he thinks proved to be the essential circumstances connected with and constituting a case of fever, viz:

1st. Morbid impressions made upon the nervous centres.

2d. Weakened and vicious nervous influence sent out through the whole system.

3d. That this weakens the action of the capillaries, and causes them to dilate under the pressure of the blood, while at the same time, the sensibility of their mouths is so altered by having been supplied with morbid nervous influence, that they refuse to let the blood pass; just as the neck of the bladder, when irritated, refuses to give passage to the urine, though of a natural quality, thereby retarding the blood in the capillaries, and obstructing the circulation.

4th. That the accumulation of blood in the large vessels, from this cause, occasions the heart and arteries to be unduly excited by the stimulus of distension, thus producing the reaction which constitutes the hot stage.

5th. The pressure and tension occasioned by the engorgement of the capillaries, give rise to all the unnatural phenomena which attend a case of fever throughout its several stages, viz.: the increased, depraved, or suspended secretions, painful and unnatural sensations, inflammatory complications, etc.

6th. It is only by a partial restoration of the natural action of the capillaries that an intermission, or remission, is obtained; and only by permanently restoring this action can the disease be broken up. And lastly, if capillary action is not restored, the patient dies.

The author believes "the cause of all malarious, epidemic, and contagious fevers in organized existences, infinitesimal animalcules or spornles, which float in the atmosphere," but remarks, "whether organic or inorganic, it most certainly acts as a narcotic stimulant or nerve poison; the nature of the first symptoms indicates this most unmistakably."

"This point being settled, the field of investigation is at once open for means to neutralize the poison or counteract its effects." Hence "there are four points to be met in the treatment of every case of fever."

"1. To remove the cause.

2. To allay the nervous disturbance.

3. To restore the action of the capillaries.

4. To allay over-action and equalize the circulation.

For the first indication he proposes the oil of sassafras, as in effect generally antidotal.

For the second, valerian, especially the tincture.

For the third, piperin is "more effectual and pleasant than any other known agency."

For the fourth, sponging the surface with water of a suitable temperature; the internal use of rhubarb and super carb. soda; frictions again, externally, especially over the spine, with some kind of liniment containing both stimulant and anodyne properties. He adds:

Of course, many adjuvants have been resorted to, from time to time, to meet particular symptoms; but the above forms a general catalogue of the means by which I attempted to subdue the most potent enemy that has ever assailed our race, and with them I have succeeded, not occasionally, not generally, but uniformly and promptly. These means, though simple, as regards any unpleasant effects they can have upon the system, have proved as powerful in the contest with disease, as did the pebble which David used in his hostile meeting with the uncircumcised defier of Israel.

The particular method of compounding the several medicines used, is then given, with some detail, and sundry formulæ published. The principal one constitutes the celebrated "Fever Syrup" of the author, much in use by practitioners and planters throughout the South. [And in this connection we may notice that packages of the several medicines suitable for extemporaneous formation into the fever syrup, can be obtained by addressing either the author or Stretch & Forbes, druggists, also of Nashville, Tennessee. It is possible that Prof. Bowling, of the same place, would accommodate his friends by acting as agent for the same invaluable combination.]

In presenting the work, Dr. T. briefly considers the prominent theories which have been, from time to time, advanced on the subject of fevers, particularly the humoral, the spasmodic, the sympathetic, the phlegmasian, John Esten Cooke's, the Thompsonian, and the present; adverts to the combination of truth and error which each presents, the modes of

cure suggested, and then passes to a chapter on the "Mysteries Connected with Fever," periodicity, tendency to health, curative influence over other diseases, critical days, how contagious diseases secure comparative immunity from subsequent attack; continued action of the cause, &c., &c. A very considerable degree of ingenuity is manifested in the notice of these several points, and several plausible thoughts of a novel character are brought forward.

Then follows a discussion as to the modus operandi of quinine, of topical remedies, of turpentine, in curing fever, and of mercurials in operating injuriously therein. This chapter we think the best in the work, albeit we are not yet fully wrought up to the unqualified reception of the concluding paragraph:

Sassafras does whatever the turpentine can do that is beneficial, and *never does harm*, so that it is to be preferred of the two, and, with the aid of piperin and valerian, will do pretty much all that is required to be done in typhoid or any other fever.

The remaining portion of the book is occupied in a methodical statement of the practical application of the principles and remedies previously discussed, to the treatment of particular fevers, first, however, adverting to, and in the main adopting, Prof. H. F. Campbell's views on the classification of fevers among the neuroses, claiming, incidentally, that his own doctrine with reference to the capillary system, is one of equal importance. As both the views of Prof. Campbell and his own with reference to the reciprocal relation of the nervous and capillary systems had been, long ago, clearly anticipated by another authority, to whom the professional world owe a more complete acknowledgment than yet received, we shall, for the present, pass over this portion of the subject.

Let no man fear that he may not eventually receive the encomium which is justly his due. When the intrigues of interested partisans, and the prestige of the *magnum nomen* once pass a little over, the appropriate meed will be awarded. The generalizations of Hall, Campbell, Draper, and that which this author claims with reference to the capillaries, all

being but phases of another and larger view which includes and renders clear these and myriad other principles and phenomena, it is unnecessary for us here to delay to comment. The appeal lies to the coming time.

Typhoid fever Dr. T. illustrates, by various cases, treated according to his method, by himself and other practitioners. So also "bilious or miasmatic fever," pneumonia, yellow fever dysentery, cholera infantum, variola, scarlatina, and rubeola. He italicizes the rule, "*that typhoid fever treated upon the plan laid down in this book, when taken in the incipient stage, or before inflammatory complications are set up, will yield in a few days, leaving the patient but very little weakened or injured in any way.*" This position he fortifies by his own experience in large and constant practice, and by the testimony of many who have tried the same method. It will be seen that he claims not only extraordinary success in conducting typhoid fever to a successful termination, but, moreover, that he is able, when called at an early period, about invariably to abort the disease.

We must confess that, probably from dwelling in a colder clime, far from "Nashville, Tennessee," we cannot yet share this enthusiastic belief, although we think that in judicious hands the measures recommended would prove beneficial in many cases, in moderating the disease in its progress. Almost anything is an improvement over the old depleting and starvation system.

Time and space alike forbid us from further observations or comments upon this little treatise. We confess that in style and sentiment, in many parts, we find it exceedingly objectionable; nevertheless, the author gives us his positions so clearly, and appeals to experience so boldly; he challenges the profession to such simple, and, on the whole, such innoxious tests, that we are fain to say, give the matter a fair and candid trial. Buy this little book, read and laugh if you will, but when through with it, test the methods, and record the results. We have read, and admit that here and there we have laughed, and now we propose to give the method a candid and experimental investigation, and then, perchance, we may write again. A.

A NEW NEEDLE FOR SUTURES.

In the October number of the *Nashville Journal of Medicine and Surgery*, for 1860, Prof. Paul F. Eve has a description of a needle of his invention designed chiefly for metallic sutures. The subjoined extract will indicate what is claimed for it by Prof. Eve.; and perhaps will give as good an idea of the instrument as can be conveyed without the cut that accompanies its description as originally published:

"The needle is mounted on a fixed handle, and is therefore under the control of the operator. It is slightly curved, and has a lancet-like point and shoulders, to facilitate its passage through the soft parts. The novelty of its construction is the *canula* at the curvature through which the ligature, metallic or otherwise, is passed, and this may vary from one-half to an inch or two in length. I have had three sizes made, the smallest for silver wire, and the larger for lead. I have just sent an order to Mr. Tiemann, for one very delicate, more curved, and with a longer handle, for a case of staphyloraphy now under treatment for operation.

The needle, armed with the ligature deposited in the canula, is made to transfix the flaps gently held together; the wire now pushed through the canulated portion is seized and held by the fingers while the needle itself is withdrawn. The sutures are thus properly placed, with great ease and but little pain, and the wound is ready for dressing. My plan is not to cut off the extremities of the ligatures close to the knot, but simply to twist the wire to close the wound, then lay its two extremities down on the integuments, and there secure them by adhesive strips during the healing process. In this way the wound is not liable to be injured by their sharp cut ends, and the same ligature may be repeatedly used.

Obnoxious to the single objection of size, for I have long advocated small suture needles, knowing well how patients suffer in stitching the flesh; the one here described is certainly quite simple, inexpensive, (costing but $2 apiece,) is of easy, accurate, and of general, if not universal applicability. For instance, in vesico-vaginal fistula, the needles now in use are

not only brought through, but out of the edges surrounding the opening, a very difficult and painful step in the operation, and then a silk ligature is introduced, to be supplanted by that of silver; whereas by the new needle here proposed, the wire is immediately and readily applied by simply transfixing the soft parts and drawing it from the canula. Again, by reversing its action, that is, by first transfixing the flaps, then placing a waxed thread into the opening of the canula, near the point, in now withdrawing the needle, the ligature is deposited, and by repeating this movement, the continued suture is made. The cadaver may thus be rapidly, and with great ease, stitched up after a post mortem examination, by simply thrusting this sharp instrument through the edges of the incisions, and arming the canula with a small cord at its point.

PROCEEDINGS

OF THE MEDICAL SOCIETY OF THE CITY OF GALESBURG, HELD SEPTEMBER, 8TH, 1860.

At a regular meeting of the Galesburg City Medical Society held September, 8th, 1860, the following report of a committee appointed at a previous session, was received and adopted unanimously, and copies ordered to be furnished to the *Chicago Medical Journal* and the *Chicago Medical Examiner*, for publication;

Your committee to whom was referred the several subjects relating to the necessities for some legislation favoring the study of Practical Anatomy, by students and members of the medical profession, for a registry law of births, marriages, and deaths, and for the extension to medical men of the privilege of witholding, when called as witnesses, any information derived in the exercise of their professional duties, and which was necessary to the proper discharge thereof, submit the following preamble and resolutions, as expressive of the sense of this Society.

WHEREAS, In the study of the science of medicine and surgery, and to a proper understanding and practice of the

same it is indispensably necessary that the student have an opportunity to become familiar with the science of *Human Anatomy*, by practical dissections with his own hands, and

WHEREAS, Such course of study is held as a pre-requisite to graduation in all well regulated medical schools, and is also held by the public to be of paramount importance to a thorough medical education; and

WHEREAS, Both the public and the law hold medical men pecuniarily and morally responsible for a reasonable knowledge of this science in the exercise of their vocation; and

WHEREAS, The study of Human Anatomy cannot now be pursued in the State, except in direct violation of the laws thereof, and the liability to severe fines and penalties, and

WHEREAS, We believe this inconsistency and injustice of the law in the requirement of the exercise of this knowledge under penalty, which, at the same time, under like penalty, it prohibits being obtained, should be removed; and

WHEREAS, We believe that a proper registration of births, marriages, and deaths, is necessary in a legal, medical, and sanitary point of view, and will conduce greatly to the general welfare of the inhabitants and the advancement of the industrial interests of the State. And

WHEREAS, By the common law of the land, and by the rulings of the courts in this State, physicians and surgeons may be made to disclose any information acquired confidentially in their attendance professionally upon any person, no matter how repugnant to their sense of propriety, honor, and morality, such disclosures may be; therefore,

Resolved, That we deem it wise and necessary, on the part of the Legislature of this State, to make some provision which will admit students of medicine and members of the profession to supply themselves with materiel from subjects interred at the public expense, when not claimed by relations or friends, under such restrictions for the protection of the public interests and feelings as the delicate nature of the case may suggest.

Resolved, That a law for the registration of births, marriages, and deaths, will contribute much to a better understanding of our climate, vital statistics, sanitary and industrial condition; to say nothing of the legal, historical, and medical knowledge otherwise accruing therefrom.

Resolved, That we hold the relation of physician and patient to be of the most private, personal, and confidential character; and as such should ever be held inviolate, and as exempt from inquisitorial proceedings as those of the attorney and his client. That in accordance with these sentiments we

claim that no person duly authorised to practice medicine and surgery should be compelled to disclose any information which he may have acquired in attendance on any patient in a professional character, and which information was necessary to enable him to prescribe intelligently, as a physician, or do any act as a surgeon.

Resolved, That the statutes of the States of New York, Michigan, Iowa, Wisconsin, and Missouri, extending to the medical profession these legal privileges, are founded in justice and good morals, and have a proper regard for the peace of families and the community, and therefore receive our entire approval in meeting the wants of the profession in this State.

Resolved, That at the proper time this Society will prepare a memorial to the Legislature calling attention to these, as we believe, rightful statutory provisions, and ask for such enactments as the several cases herewith presented may require.

Resolved, That we recommend similar action to other medical societies, and we solicit their active co-operation in carrying out the spirit of these resolutions.

M. K. TAYLOR, M. D., President.
H. M. STARKLOFF, M. D., Secretary.

☞ We take pleasure in returning our thanks to those of our patrons who have promptly responded to the bills forwarded with the last number of the *Journal*, and whose names appear in the present issue. We trust we shall not be forgotten by those who have not yet paid, and that the October list of receipts may be more ample than that for the preceding month.

☞ The Illinois State Medical Society holds its Annual Meeting for the year 1861, on the first Tuesday of May next, in the city of Jacksonville.

☞ Prof. J. Adams Allen, of Rush Medical College, has been appointed to the Chair of Materia Medica, in the Chicago College of Pharmacy. The latter appointment does not interfere with his teaching in the Medical College.